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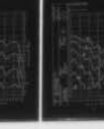
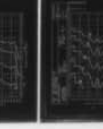
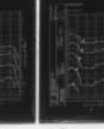
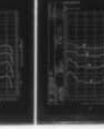
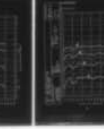
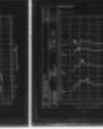
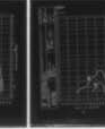
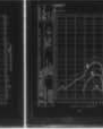
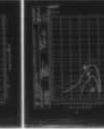
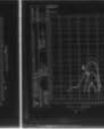
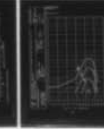
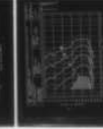
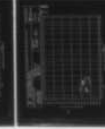
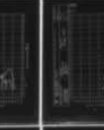
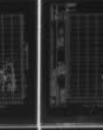
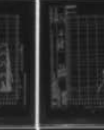
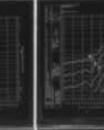
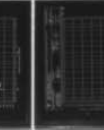
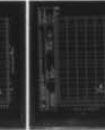
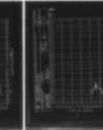
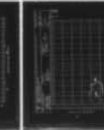
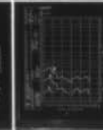
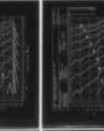
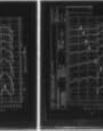
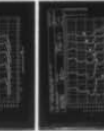
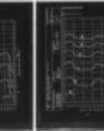
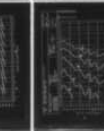
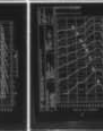
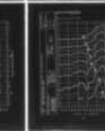
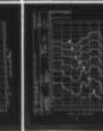
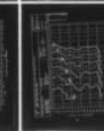
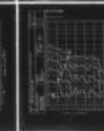
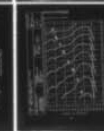
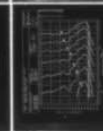
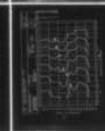
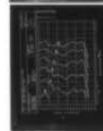
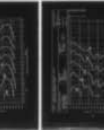
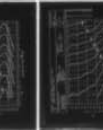
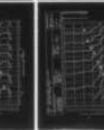
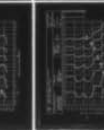
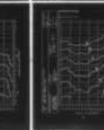
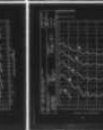
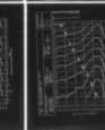
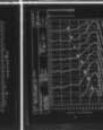
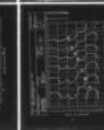
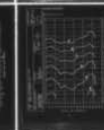
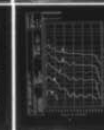
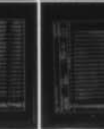
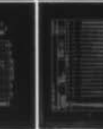
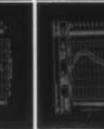
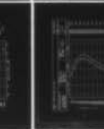
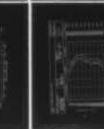
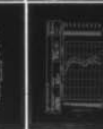
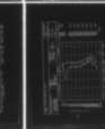
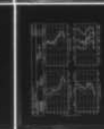
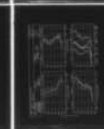
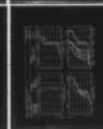
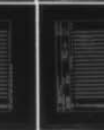
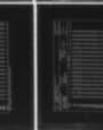
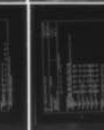
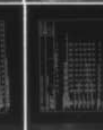
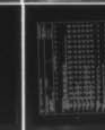
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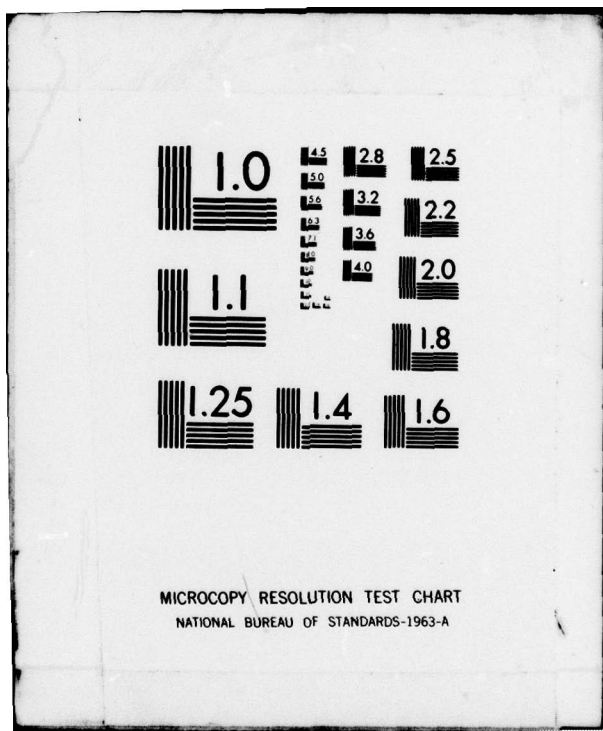
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**USAF BIOENVIRONMENTAL NOISE
DATA HANDBOOK
Volume 137
F-101B Aircraft, Near and Far-Field Noise**

LEVEL III

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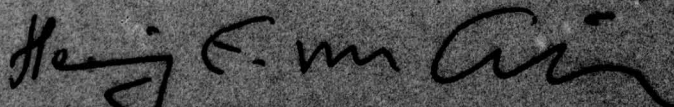
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FOR THE COMMANDER



HENNING E. VON GIERKE

Director

Biodynamics and Biomechanics Division
Aerospace Medical Research Laboratory

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The USAF F-101B is a long-range, all-weather supersonic fighter-interceptor aircraft powered by two J57-P55 turbojet engines. This report provides measured and extrapolated data defining the bio-acoustic environments produced by this aircraft operating on a concrete runup pad for five engine-power conditions. Near-field data are reported for ten locations in a wide variety of physical and psychoacoustic measures: overall and band sound		

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pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise levels, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distance from the source. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application", AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc.

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PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723107, Technology to Define and Assess Environmental Quality of Noise, from Air Force Operations. The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Mr. Harald Hille for his assistance in acquiring the raw data, Mr. Henry Mohlman, Mr. Keith Kettler and Mr. Fred Lampley of the University of Dayton for assistance in the mechanics of data processing and Mrs. Peggy Massie for typing and assistance in preparation of graphics.

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INTRODUCTION

The USAF F-101B is a long-range, all-weather supersonic fighter-interceptor aircraft powered by two J57-P-55 turbojet engines. The aircraft was manufactured by the McDonnell Aircraft Corporation and the engines by United Aircraft, Pratt and Whitney Division.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the F-101B aircraft.

This volume is one of a series published by the Aerospace Medical Research Laboratory (AMRL) under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and ground support equipment. The far-field, community-type noise data in the handbook describe the noise produced during *ground operations* of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15 C temperature, 70% rel humidity, 0.760 meters Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to: AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVON 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.
2. Cole, John N. *USAF Bioenvironmental Noise Data Handbook Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH, 1975.

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on the F-101B aircraft during ground runup operations of its turbojet engines. For these tests, the aircraft was located on a trim pad at Tyndall AFB. Table 1 gives the surface meteorological conditions and the engine power conditions. The ground-crew chief selected power conditions and near-field locations generally used during routine maintenance or engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand-held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all of the noise samples on magnetic tape. During analysis of each sample, he determined the root-mean square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location.

Figure 1 shows the ten numbered near-field locations where ground crews are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations in the near-field are difficult since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.).

Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the measurement locations and test conditions. For example, the designator 1/A means ground crew location 1 and test conditions A.

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the F-101B aircraft at the ten ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3 which are widely used to assess the effects of noise on personnel and their performance.

All near-field data are for the meteorological conditions at the time of test but are valid for all typical airbase meteorology because of the short sound propagation distances involved.

TABLE 1
MEASUREMENT LOCATIONS AND TEST CONDITIONS
FOR NEAR-FIELD NOISE MEASUREMENTS

F-101B Aircraft, Ground Runup, Tyndall AFB
6 June 1978
Tail #80303

Ground Crew Location

1	Air Hose Removal
2	Engine Observation
3	Marshal
4	Electrical Disconnect
5	Pin Pull FLG
6	Accumulator Check
7	Leak Check
8	Wheel Chock
9	Flap Check
10	Trim Adjustment

Aircraft Engine Operation

A	Idle
B	80% RPM
C	90% RPM
D	Military Power
E	Afterburner Power

Meteorology

Temperature	27.7 C
Bar Pressure	0.762 M Hg
Rel Humidity	82 %
Wind — Speed	2.6 M/Sec (5 Kts)
— Direction	235 Deg

③

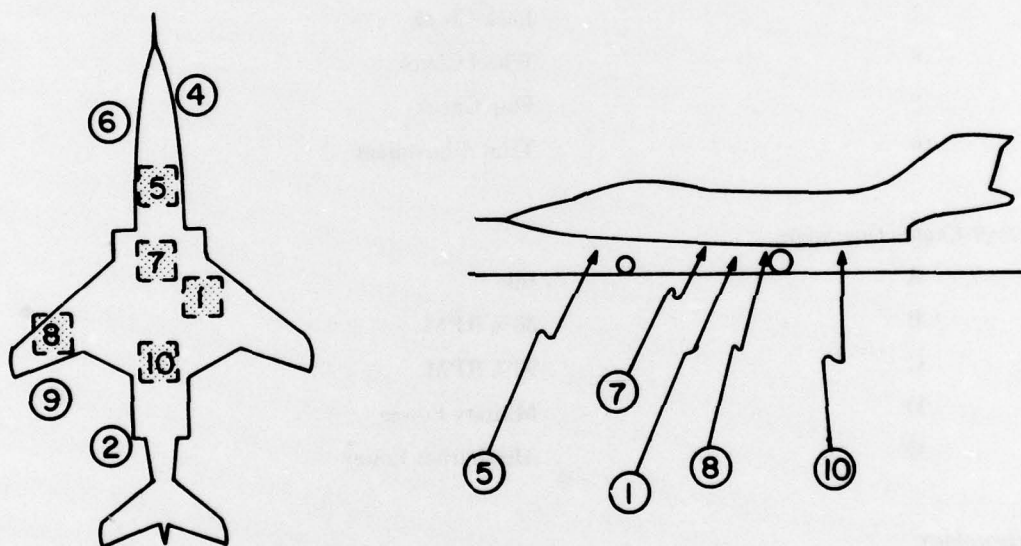


Figure 1. Near-Field Measurement Locations on Remote Trim Pad at Tyndall AFB FL

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired far-field data during a one hour test period, thus keeping similar meteorological conditions throughout the test. Figure 2 shows the ground runup pad, ground cover aircraft orientation and the 19 microphone measurement sites on a semicircle. The center of the 75 meter radius semicircle used in surveying the J57-P-55 engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through the engines' exhaust-nozzle exits. The ground runup area did not have a blast deflector; therefore, the engines' exhausts were in a "free-flow" condition.

Table 4 provides cockpit readouts of some engine characteristics (% RPM, fuel flow, etc.) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All microphone measurement sites are in the acoustic far-field of the source where the sound wavefronts spherically diverge and the noise source may be regarded as a point source.

A portable microphone/tape-recorder system was used to sequentially record the noise at each far-field location. The microphone was attached to a hand-held pole, pointed at the source (0° angle of incidence) and vertically scanned from 0.5 to 3 meters for a period of 5-10 seconds during data acquisition at each microphone location. These samples were then time-integrated to derive a root-mean-square sound pressure level. Vertical scanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone.

RESULTS

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the F-101B aircraft in a standard format.

Figure 4 and Table 5 present two basic acoustic measures, the acoustic power level and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure which describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

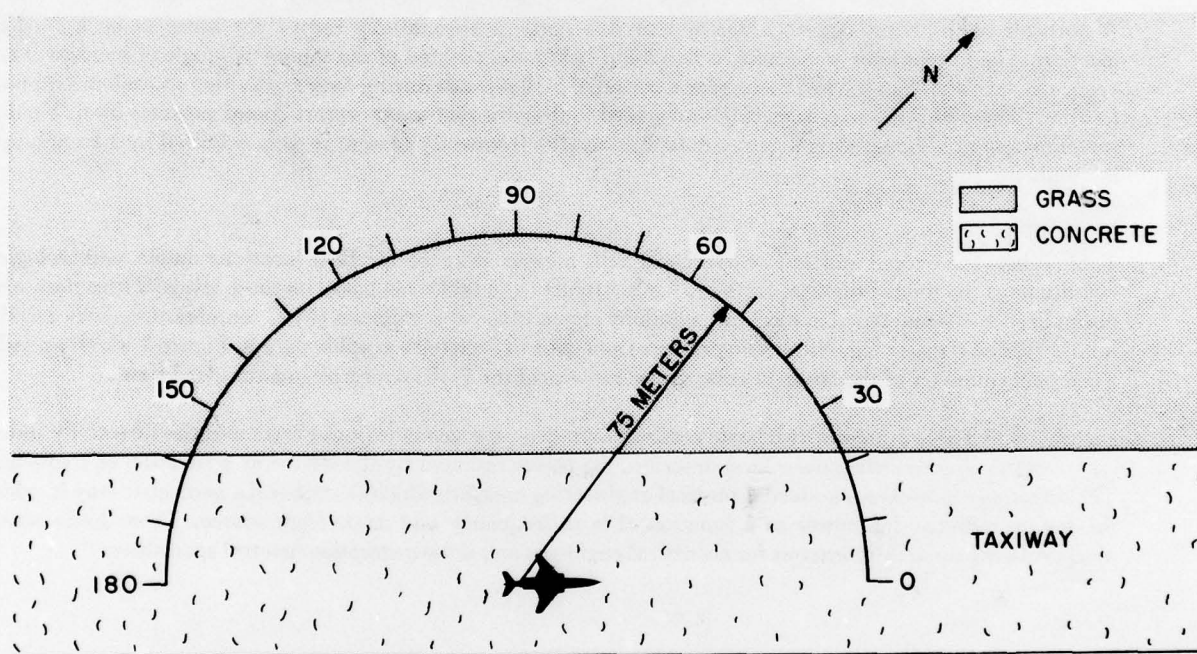


Figure 2. Far-Field Measurement Locations on Remote Trim Pad at Tyndall AFB FL

Estimates of noise characteristics for intermediate power settings (e.g., 88% engine) and/or different number of engines operating (e.g., single engine) can be determined as explained in Volume 1 of this handbook.

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

No data are presented at the 170 and/or 180 degree locations at an engine setting above idle power because of turbulent air flow behind the aircraft. Typical A-weighted levels for these angles are 10 to 20 dBA below those at the 160/170 degree location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 5 at idle power).

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)															
1/3 OCTAVE BAND															
NOISE SOURCE/SUBJECT: (OPERATION:)															
F-1018 AIRCRAFT ()															
GROUND CREW ()															
NEAR FIELD NOISE LEVELS ()															
LOCATION/CONDITION															
FREQ (HZ)	3/A	3/B	3/C	3/D	3/E	4/A	4/B	5/A	5/B	6/B	7/A	7/B	7/C	7/D	7/E
25	69<	75	81	84	97	75	77	79	83	81	84	90	92	97	103
31.5	77	77	83	86	97	82	82	82	84	83	89	89	94	97	105
40	72<	77<	84	87	99	76<	79	81	85	84	88	92	99	101	110
50	67<	79	86	89	100	74<	79	79	83	83	87	95	106	102	113
63	70<	80	87	91	102	75<	80	82	86	86	87	95	104	104	111
80	70<	80<	89	93	104	75<	81<	79<	81	84	87	93	103	104	112
100	72<	84	91	96	106	76<	81	80	83	86	89	97	105	109	117
125	74<	85	94	98	106	79	81	84	84	86	86	99	107	110	117
160	78	86	95	101	109	81	83	86	87	90	91	98	107	110	118
200	76	86	95	100	109	82	84	86	86	92	89	99	107	111	117
250	77	88	98	101	112	83	86	88	88	96	93	102	110	114	119
315	83	88	97	102	109	83	84	89	91	100	93	103	111	116	119
400	81	86	94	101	107	88	89	93	96	100	92	99	110	114	118
500	78	84	94	101	105	91	94	97	98	102	93	99	108	112	117
630	80	84	92	99	104	88	90	98	98	103	92	100	109	114	118
800	89	92	95	100	105	94	92	100	103	108	95	100	111	117	120
1000	95	96	95	99	101	98	99	103	106	113	99	102	112	117	121
1250	95	98	96	97	100	95	96	102	104	112	97	103	110	115	120
1600	92	103	97	96	100	94	95	101	104	110	96	112	111	116	119
2000	95	102	107	99	101	97	98	105	108	114	97	107	114	115	118
2500	92	101	108	100	100	94	94	101	103	109	93	104	114	113	117
3150	96	104	101	98	100	100	99	106	109	114	98	108	110	113	117
4000	91	103	102	96	100	93	92	100	103	108	92	107	110	112	116
5000	90	101	102	95	96	91	90	98	101	107	88	103	110	110	113
6300	88	100	100	93	93	89	88	97	99	104	87	102	108	109	112
8000	87	99	98	91	92	89	88	96	98	104	86	100	107	108	111
10000	84	97	95	88	88	85	85	93	94	100	82	98	104	106	108
OVERALL	103	111	114	112	119	106	106	113	115	121	107	117	123	127	131

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB) 1/3 OCTAVE BAND										IDENTIFICATION:	
2										OMEGA 3.2	
										TEST 78-011-001	
NOISE SOURCE/SUBJECT: (OPERATION:)										RUN 02	
F-1019 AIRCRAFT ()										18 JAN 79	
GROUND CREW ()										PAGE F2	
NEAR FIELD NOISE LEVELS ()											
										LOCATION/CONDITION	
FREQ (HZ)	6/A	6/B	6/C	6/D	6/E	6/A	9/B	9/C	9/D	9/E	
25	85	91	94	96	108	85	89	94	98	108	
31.5	94	91	94	99	109	93	89	96	100	109	
40	88	91	97	100	109	89	91	98	100	111	
50	83	91	101	102	110	84	90	100	100	111	
63	82	92	101	103	113	85	93	101	105	113	
80	87	93	103	105	114	87	94	101	106	115	
100	89	98	105	108	117	86	95	104	107	116	
125	89	99	109	111	119	88	99	105	109	116	
160	91	97	106	110	118	90	99	107	111	117	
200	85	95	107	110	117	87	99	108	112	118	
250	87	95	109	111	118	88	101	109	114	121	
315	86	97	109	111	118	91	104	112	115	120	
400	92	99	110	112	119	93	103	112	117	122	
500	92	100	111	113	121	93	102	112	116	122	
630	90	100	110	115	122	90	102	113	117	122	
800	91	100	112	117	123	91	104	113	118	123	
1000	93	99	111	116	122	94	104	112	117	122	
1250	92	99	111	115	121	92	105	111	116	121	
1600	90	103	111	115	121	91	106	111	116	121	
2000	90	100	112	114	121	92	106	111	117	121	
2500	86	97	110	113	119	88	104	111	114	119	
3150	92	98	109	112	118	92	103	109	114	118	
4000	88	98	109	112	117	88	101	108	113	118	
5000	83	95	106	110	115	83	98	106	111	116	
6300	81	95	105	108	114	82	98	105	110	115	
8000	82	92	105	107	113	84	96	104	109	113	
10000	79	90	102	105	111	81	95	101	107	111	
OVERALL	103	112	122	126	132	104	115	123	128	133	

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:	
2 1/3 OCTAVE BAND											
NOISE SOURCE/SUBJECT: (OPERATION:)										OMEGA 3.2	
F-101B AIRCRAFT										TEST 78-011-001	
GROUND CREW										RUN 03	
NEAR FIELD NOISE LEVELS										18 JAN 79	
										PAGE F3	
										LOCATION/CONDITION	
										10/B 10/C 10/D 10/E 1/F 2/A	
FREQ											
(HZ)											
25	93	97	99	109	83	93					
31.5	90	98	99	110	89	100					
40	91	98	100	111	88	95					
50	92	99	102	110	83	90					
63	96	101	105	113	83	86					
80	98	105	107	116	85	89					
100	99	106	110	118	85	93					
125	99	106	109	119	84	97					
160	98	107	111	119	83	102					
200	100	109	112	120	83	99					
250	99	109	112	119	90	97					
315	99	107	112	118	87	101					
400	100	108	112	119	87	101					
500	101	110	112	119	88	103					
630	101	111	115	120	84	98					
800	102	112	118	121	85	98					
1000	101	112	117	121	90	95					
1250	101	111	115	120	88	94					
1600	104	110	115	120	87	92					
2000	102	111	114	120	87	91					
2500	100	111	113	118	83	89					
3150	101	109	113	118	88	102					
4000	100	108	112	117	83	100					
5000	98	106	109	114	79	92					
6300	97	105	108	114	77	94					
8000	94	104	108	112	78	96					
10000	92	100	105	110	74	95					
OVERALL	114	122	126	132	100	112					

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)									
2 OCTAVE BAND									
NOISE SOURCE/SUBJECT: (OPERATION:)									
F-1018 AIRCRAFT (((
GROUND CREW (((
NEAR FIELD NOISE LEVELS (((
LOCATION/CONDITION									
8/A 8/B 8/C 8/D 8/E 6/A 9/B 9/C 9/D 9/E									
FREQ (HZ)									
31.5	95	96	100	103	113	95	94	101	114
63	89	97	106	108	117	90	97	105	118
125	94	103	112	114	123	93	103	110	121
250	92	101	113	115	122	94	106	115	124
500	96	104	115	118	126	97	107	117	127
1000	97	104	116	121	126	97	109	117	127
2000	94	105	116	119	125	95	110	116	125
4000	94	102	113	116	122	94	106	113	122
8000	86	97	109	112	117	87	101	108	118
OVERALL	103	112	122	126	132	104	115	123	133

IDENTIFICATION:

OMEGA 3.2

TEST 78-011-001

RUN 02

18 JAN 79

PAGE J2

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:	
2 OCTAVE BAND											

TABLE: MEASURES OF HUMAN NOISE EXPOSURE													IDENTIFICATIONS	
3														
NOISE SOURCE/SUBJECTS													OMEGA 3.2	
(OPERATION:)													TEST 78-011-001	
()													RUN 01	
()													18 JAN 79	
()													PAGE H1	
F-1018 AIRCRAFT														
GROUND CREW														
NEAR FIELD NOISE LEVELS														
LOCATION/CONDITION														
3/A	3/B	3/C	3/D	3/E	4/A	4/B	5/A	5/B	6/B	7/A	7/B	7/C	7/D	7/E
HAZARD/PROTECTION														
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DB) AT EAR														
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DB) AT EAR														
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)														
NO PROTECTION														
OASLC	103	111	113	112	119	106	112	115	121	107	117	123	126	131
OASLA	104	112	114	110	113	106	107	116	122	106	117	123	126	129
T	15	3.8	2.7	5	3.2	11	9	3.2	P	11	P	P	P	P
MINIMUM QPL EAR MUFFS														
OASLA*	75	84	87	88	95	78	79	85	87	81	90	97	101	106
T	960	480	285	240	71	960	960	404	285	101	170	50	25	11
AMERICAN OPTICAL 1700 EAR MUFFS														
OASLA*	69	78	81	83	91	72	73	79	81	75	85	92	96	101
T	960	960	807	571	143	960	960	960	807	285	404	120	50	25
V-51R EAR PLUGS														
OASLA*	76	82	83	84	90	79	79	85	87	80	88	95	100	104
T	960	679	571	480	170	960	960	404	285	85	240	71	30	15
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS														
OASLA*	63	69	70	70	75	66	66	72	74	67	75	82	86	90
T	960	960	960	960	960	960	960	960	960	807	960	679	339	170
H-133 GROUND COMMUNICATION UNIT														
OASLA*	77	85	87	82	86	80	80	86	89	80	90	95	98	102
T	960	404	285	679	339	960	960	339	202	71	170	71	42	21
COMMUNICATION														
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)														
PSIL	94	99	103	104	108	98	100	105	107	113	108	116	120	123
ANNOYANCE														
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)														
TONE CORRECTION (C IN DB)														
PNLT	118	125	130	124	127	122	122	128	131	136	133	137	139	142
C	1	0	2	0	0	2	2	2	2	2	2	0	0	0

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.
P ADDITIONAL EAR PROTECTION REQUIRED.

TABLE: MEASURES OF HUMAN NOISE EXPOSURE										IDENTIFICATION:	
3										OMEGA 3.2	
NOISE SOURCE/SUBJECT:										TEST 78-011-001	
(OPERATION:										RUN 02	
F-1018 AIRCRAFT										18 JAN 79	
GROUND CREW										PAGE H2	
NEAR FIELD NOISE LEVELS											
LOCATION/CONDITION											
8/A	8/B	8/C	8/D	8/E	6/A	9/B	9/C	9/D	9/E		
HAZARD/PROTECTION											
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR											
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR											
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)											
NO PROTECTION											
OASLC	103	111	122	126	132	103	115	123	127	133	
OASLA	101	110	121	125	131	102	115	122	127	132	
T	25	5	P	P	P	21	2.2	P	P	P	
MINIMUM QPL EAR MUFFS											
OASLA*	78	86	97	100	107	78	90	98	102	108	
T	960	339	50	30	9	960	170	42	21	8	
AMERICAN OPTICAL 1700 EAR MUFFS											
OASLA*	73	81	92	95	102	73	84	92	97	102	
T	960	807	120	71	21	960	480	120	50	21	
V-51R EAR PLUGS											
OASLA*	76	84	95	99	105	76	88	96	101	106	
T	960	480	71	36	13	960	240	60	25	11	
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS											
OASLA*	62	70	81	85	92	63	74	82	87	92	
T	960	960	807	404	120	960	960	679	285	120	
H-133 GROUND COMMUNICATION UNIT											
OASLA*	74	83	94	97	103	75	88	94	99	104	
T	960	571	85	50	18	960	240	85	36	15	
COMMUNICATION											
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)											
PSIL	95	105	116	119	126	96	109	116	121	126	
ANNOYANCE											
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)											
TONE CORRECTION (C IN DB)											
PNLT	117	125	135	138	144	117	128	135	139	144	
C	2	1	1	0	0	1	0	0	0	0	
* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.											
P ADDITIONAL EAR PROTECTION REQUIRED.											

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.
P ADDITIONAL EAR PROTECTION REQUIRED.

TABLE 4
TEST CONDITIONS
FOR FAR-FIELD NOISE MEASUREMENTS

F-101B Aircraft, Ground Runups, Tyndall AFB FL
6 June 1978
Tail #80303

Aircraft Engine Operation

Idle (#1 Engine Off)	#2 (Right) Engine 62 % RPM, Core Speed N/A Engine Pressure Ratio 280 C, Exhaust Gas Temperature 1150 LBS/HR, Fuel Flow
80% RPM (#1 Engine Off)	#2 (Right) Engine) 80 % RPM, NC 1.25 EPR 320 C, EGT 2450 LBS/HR, FF
90% RPM (#1 Engine Off)	#2 (Right) Engine 90 % RPM, NC 1.58 EPR 420 C, EGT 4350 LBS/HR, FF
Military Power (#1 Engine Off)	#2 (Right) Engine 95.5 % RPM, NC 2.10 EPR 540 C, EGT 7600 LBS/HR, FF
Afterburner Power (#1 Engine Off)	#2 (Right) Engine 96 % RPM, NC 2.04 EPR 530 C, EGT 7600 LBS/HR, FF plus Afterburner

Meteorology

Temperature	27.7 C
Bar Pressure	0.762 M Hg
Rel Humidity	82 %
Wind — Speed	2.6 M/Sec (5 Kts)
— Direction	235 Deg

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																			
1/3 OCTAVE BAND																			
DISTANCE = 75 METERS																			
NOISE SOURCE/SUBJECT:																			
(OPERATION:)																			
(80% RPM)																			
(SINGLE ENGINE)																			
(FREE FLOW)																			
F-101B AIRCRAFT																			
J57-P-55 ENGINE																			
FAR FIELD NOISE																			
METEOROLOGY: = 28 C																			
BAR PRESS = .762 M HG																			
REL HUMID = 82 %																			
PAGE 2																			
IDENTIFICATION:																			
OMEGA 1.4																			
TEST 78-011-001																			
RUN 02																			
18 SEP 78																			
ANGLE (DEGREES)																			
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	66<	66<	68<	68<	69<	62<	65<	69<	66<	65<	66<	66<	68<	73<	75	79	79	78	
31.5	67<	66<	67<	68<	69<	68<	68<	72	70<	69<	70<	71	72	77	80	81	83		
40	67<	68<	68<	71<	70<	71<	72<	74<	73<	72<	74<	74<	78<	81	84	86	85		
50	68<	69<	69<	72<	72<	71<	72<	76	76	73<	76	76	78	82	87	88	87		
63	70<	71<	73<	73<	74<	73<	74<	76<	76<	75<	77<	77<	81	86	90	90	87		
80	71<	73<	74<	76<	74<	74<	75<	77<	77<	76<	77<	79<	83	87	92	94	88		
100	73<	75<	78<	78<	78<	76<	77<	78<	78<	79<	79<	82	84	88	94	95	88		
125	76	76	79	79	78	77	79	79	80	81	83	83	85	88	94	95	86		
160	77	78	79	80	78	78	80	81	80	81	83	84	87	88	93	94	84		
200	77	79	80	80	77	77	80	80	81	80	83	84	87	89	90	91	80		
250	79	82	81	79	78	77	79	80	81	82	84	84	86	89	90	89	77		
315	79	80	80	78	76	75	78	78	79	81	84	84	87	88	89	86	73		
400	80	81	80	80	75	74	75	76	79	81	84	84	87	87	88	84	70		
500	80	82	81	79	74	74	73	75	78	80	84	84	85	85	86	83	68		
630	81	83	81	79	76	76	75	74	75	78	82	84	84	83	85	80	65		
800	82	83	83	79	78	78	79	78	76	79	83	84	83	83	85	80	64		
1000	81	84	84	80	79	78	81	79	77	78	82	84	82	82	83	78	62		
1250	83	86	87	82	80	81	83	83	83	82	84	84	83	83	83	77	63		
1600	91	92	93	89	89	86	86	87	83	82	84	85	82	82	82	79	66		
2000	89	90	91	88	87	84	85	82	82	81	82	84	81	81	81	76	62		
2500	88	89	89	87	86	83	83	80	82	80	81	84	79	79	81	75	61		
3150	95	95	96	94	93	87	89	85	83	81	80	83	77	78	80	74	63		
4000	90	91	92	90	89	83	84	82	81	79	78	81	75	77	78	73	60		
5000	89	91	91	88	87	84	83	82	81	80	82	84	81	82	79	76	61		
6300	88	90	90	87	84	81	82	79	79	78	80	82	79	81	79	76	61		
8000	86	88	88	84	83	81	81	78	79	77	77	78	73	74	74	72	58		
10000	82	85	84	81	80	78	78	76	77	75	76	78	72	73	73	70	55		
OVERALL	100	101	102	99	98	94	95	94	94	93	96	97	97	99	102	102	96		
< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																			

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																
1/3 OCTAVE BAND																
DISTANCE = 75 METERS																
NOISE SOURCE/SUBJECT:																
OPERATION:																
F-101B AIRCRAFT																
J57-P-55 ENGINE																
FAR FIELD NOISE																
METEOROLOGY:																
TEMP = 28 C																
BAR PRESS = .762 M HG																
REL HUMID = 82 %																
PAGE 2																
IDENTIFICATION:																
OMEGA 1.4																
TEST 78-011-001																
RUN 03																
FREQ (HZ)																
ANGLE (DEGREES)																
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180																
25	72<	71<	72<	73<	75	76	77	76	77	77	78	79	82	86	89	91
31.5	75	75	74	76	77	77	80	79	80	81	79	82	85	88	91	92
40	75<	75<	76<	76<	79	80	83	81	83	82	81	83	87	92	95	94
50	76	76	78	78	80	81	84	82	84	84	85	87	88	95	98	94
63	77<	78<	79	81	81	81	85	83	83	86	86	87	92	97	102	95
80	80<	81	82	82	84	87	85	85	85	86	88	89	93	100	105	98
100	82	82	85	84	85	86	89	87	88	89	90	92	97	102	106	99
125	85	85	86	85	86	86	88	86	88	89	91	93	98	104	106	105
160	86	88	87	86	85	87	90	89	89	90	93	94	99	104	105	100
200	87	88	87	87	86	88	92	90	90	92	94	96	100	106	103	99
250	88	89	87	87	86	88	92	89	91	92	95	96	101	107	104	107
315	87	89	87	87	85	87	89	88	89	91	95	95	100	104	104	97
400	87	87	87	87	85	85	88	87	88	91	95	96	100	104	103	94
500	86	87	87	86	85	84	86	84	86	90	94	95	99	101	101	92
630	86	87	87	84	85	85	85	83	85	89	95	95	99	100	99	91
800	85	86	87	84	85	86	86	83	84	90	95	95	98	99	98	88
1000	85	84	86	84	85	85	86	84	83	89	95	94	96	98	94	85
1250	85	84	87	85	85	86	87	85	83	89	95	93	95	96	93	91
1600	90	89	89	87	87	87	88	87	85	89	96	93	95	96	93	89
2000	99	98	98	98	93	93	92	88	87	91	97	94	95	95	92	88
2500	96	96	96	96	92	92	90	87	86	90	95	92	94	94	90	86
3150	91	92	92	92	89	89	89	87	86	90	96	91	94	95	91	85
4000	95	94	95	94	90	90	90	88	86	90	95	91	93	94	91	85
5000	92	91	93	92	88	88	88	85	85	88	92	88	92	92	90	86
6300	92	90	92	91	87	86	84	84	84	87	91	87	90	90	88	84
8000	89	88	90	89	86	84	84	83	82	87	90	87	90	89	86	83
10000	86	84	87	85	82	82	82	79	77	83	85	81	84	84	79	71
OVERALL	104	104	104	104	101	101	102	100	100	103	107	107	110	115	115	108

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 1 MEASURED SOUND PRESSURE LEVEL (DB)																
1/3 OCTAVE BAND																
DISTANCE = 75 METERS																
NOISE SOURCE/SUBJECT:																
OPERATION:																
MILITARY POWER																
95.5% RPM																
SINGLE ENGINE																
FREE FLOW																
F-101B AIRCRAFT																
J57-P-55 ENGINE																
FAR FIELD NOISE																
TEMP = 28 C																
BAR PRESS = .762 M HG																
REL HUMID = 82 %																
PAGE 2																
IDENTIFICATION:																
OMEGA 1.4																
TEST 78-011-001																
RUN 04																
FREQ																
(HZ)																
ANGLE (DEGREES)																
70 80 90 100 110 120 130 140 150 160 170 180																
25	78	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
31.5	77	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78
40	81	80	82	83	87	85	84	85	85	88	87	93	97	101	101	99
50	82	83	82	85	85	87	86	87	87	88	91	93	101	103	103	99
63	84	84	85	87	88	87	88	88	88	90	92	93	98	104	106	99
80	87	87	88	88	90	89	90	91	90	92	93	94	101	108	111	108
100	89	88	91	91	91	94	94	94	92	92	93	95	104	111	114	109
125	91	90	92	90	92	92	93	93	92	92	94	96	104	112	115	110
160	95	96	95	93	94	94	94	94	95	94	95	98	107	110	116	111
200	94	95	94	94	94	95	97	96	95	96	96	99	102	109	113	115
250	96	96	95	94	93	95	97	96	96	96	97	100	103	109	115	111
315	93	95	94	95	94	94	96	96	96	96	98	101	103	110	113	115
400	97	94	95	94	92	93	94	94	95	97	101	103	109	112	113	111
500	96	94	95	93	92	92	92	92	93	95	96	100	102	108	110	111
630	93	94	95	93	92	94	91	92	93	95	96	100	101	106	108	110
800	92	94	94	95	94	95	92	94	92	96	98	100	101	106	111	108
1000	92	92	93	93	94	94	93	95	93	94	98	99	103	103	108	105
1250	90	89	91	92	93	94	92	96	94	93	97	98	103	100	107	103
1600	91	89	91	91	92	94	95	97	95	92	96	96	102	99	105	102
2000	90	90	91	91	93	94	95	96	94	95	94	95	101	96	104	99
2500	89	90	92	87	91	93	93	93	95	94	88	93	94	99	103	97
3150	90	89	91	91	91	94	94	95	94	95	94	92	93	97	103	95
4000	87	87	89	89	89	92	92	92	93	92	86	90	92	96	100	92
5000	84	85	87	87	87	89	91	92	92	92	86	90	91	96	91	100
6300	83	83	86	85	86	88	89	91	90	85	89	89	90	95	90	98
8000	81	81	83	83	84	86	87	90	90	84	89	90	94	90	97	91
10000	77	77	79	78	81	82	84	87	87	81	86	87	92	88	94	88
OVERALL	105	105	106	105	105	106	107	108	107	107	111	112	118	122	125	121
																98

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																	IDENTIFICATION:		
1/3 OCTAVE BAND																			
DISTANCE = 75 METERS																			
NOISE SOURCE/SUBJECT:																			
(OPERATION:)																			
(AFTERBURNER POWER)																			
(96% RPM)																			
(SINGLE ENGINE)																			
(FREE FLOW)																			
F-101B AIRCRAFT																			
J57-P-55 ENGINE																			
FAR FIELD NOISE																			
TEMP = 28 C																			
BAR PRESS = .762 M HG																			
REL HUMID = 82 %																			
PAGE 2																			
ANGLE (DEGREES)																			
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	90	89	89	90	90	92	90	93	92	89	91	93	96	102	104	106	103		
31.5	90	91	91	92	91	94	95	93	93	93	93	94	102	106	107	109	106		
40	91	92	90	93	94	96	96	95	95	96	96	98	105	111	112	111	105		
50	93	93	94	95	96	96	97	97	96	98	98	100	109	114	116	113	102		
63	96	93	95	96	95	96	98	98	99	100	101	104	111	117	117	113	104		
80	96	97	97	98	99	98	99	100	100	100	102	108	115	120	119	114	104		
100	97	98	99	100	101	101	101	102	101	102	103	109	117	122	120	115	104		
125	99	98	100	100	100	101	100	102	102	103	106	111	118	123	120	114	103		
160	102	102	101	100	100	101	102	104	103	104	107	112	118	122	120	116	104		
200	101	102	101	100	101	102	103	105	104	105	108	114	119	119	119	115	101		
250	103	103	102	101	101	103	105	105	104	106	109	115	121	120	119	115	100		
315	98	100	99	100	99	100	102	104	105	107	110	114	119	120	118	113	98		
400	99	100	100	100	98	99	100	102	104	107	110	115	118	118	117	110	99		
500	98	99	100	98	98	99	99	99	103	107	111	114	116	116	115	108	99		
630	95	98	100	98	101	101	101	99	102	106	111	113	113	114	113	104	96		
800	94	97	98	98	100	101	102	101	102	106	111	112	112	112	112	101	95		
1000	92	95	97	96	99	100	102	102	102	105	109	111	110	110	109	97	92		
1250	90	93	96	94	97	99	101	103	104	104	109	110	107	108	108	95	91		
1600	91	92	95	94	97	99	101	103	105	105	108	108	105	105	107	95	89		
2000	90	92	95	94	98	99	102	104	104	105	107	107	104	104	105	93	86		
2500	89	91	93	93	97	98	100	101	103	104	105	106	101	101	104	89	84		
3150	89	91	93	94	97	98	101	103	102	103	104	104	101	99	102	87	82		
4000	88	93	92	93	96	96	99	101	100	101	101	102	98	97	99	84	79		
5000	87	89	89	91	93	94	97	99	99	101	101	102	97	97	99	83	78		
6300	85	86	88	89	92	92	95	97	98	99	100	100	96	95	98	81	76		
8000	83	85	86	87	89	91	93	96	98	99	100	100	94	94	98	80	76		
10000	79	80	82	83	85	86	89	92	94	96	97	97	92	92	94	76	73		
OVERALL	110	111	111	111	112	113	114	116	116	118	121	124	128	130	129	124	114		
LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																			

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

((FIGURE: NORMALIZED FARFIELD NOISE LEVELS
 ((3 DISTANCE = 100 METERS
 ((NOISE SOURCE/SUBJECT:
 ((F-101B AIRCRAFT
 ((J57-P-55 ENGINE
 ((FAR FIELD NOISE
 ((OPERATION:
 ((IDLE
 ((622 RPM
 ((SINGLE ENGINE
 ((FREE FLOW
 ((METEOROLOGY:
 ((TEMP = 15 C
 ((BAR PRESS = .760 M HG
 ((REL HUMID = 70 %
 ((IDENTIFICATION:
 ((OMEGA 1.4
 ((TEST 78-011-001
 ((RUN 01
 ((18 SEP 78
 ((PAGE 6

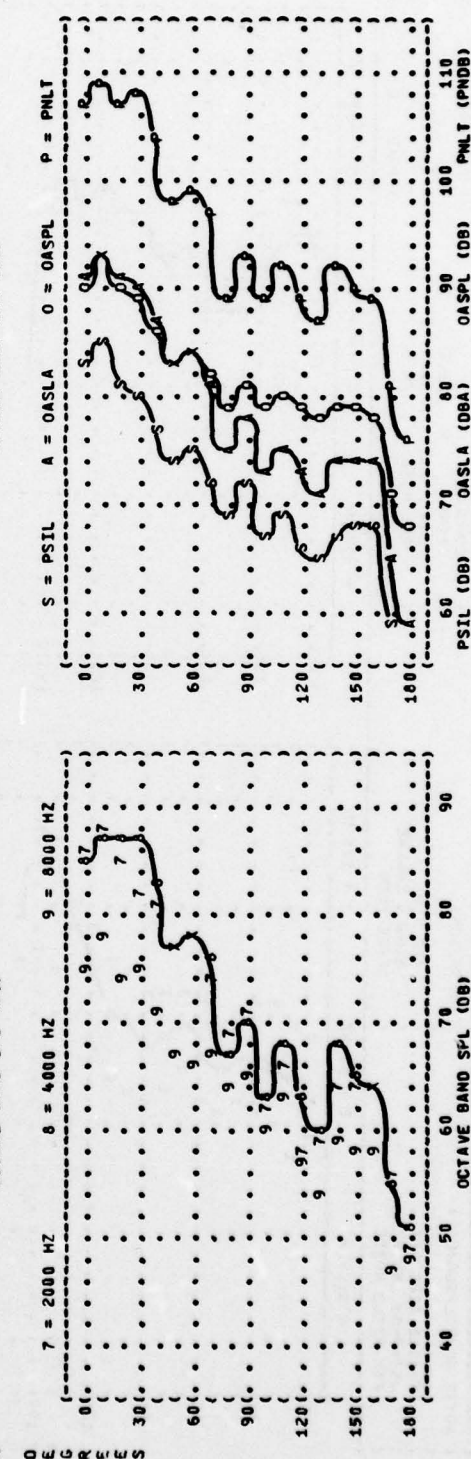
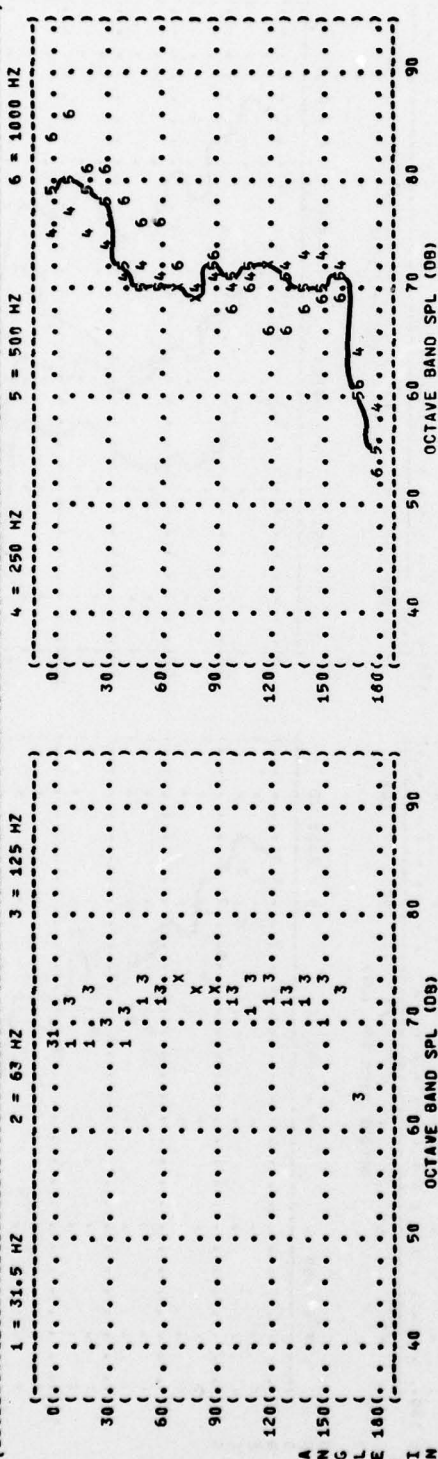


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

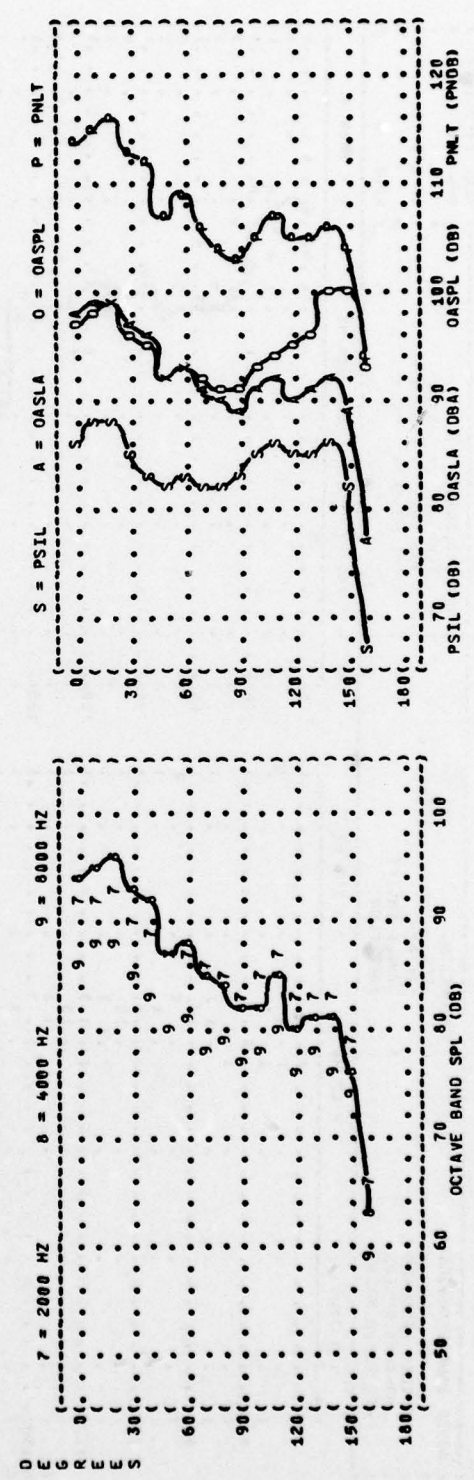
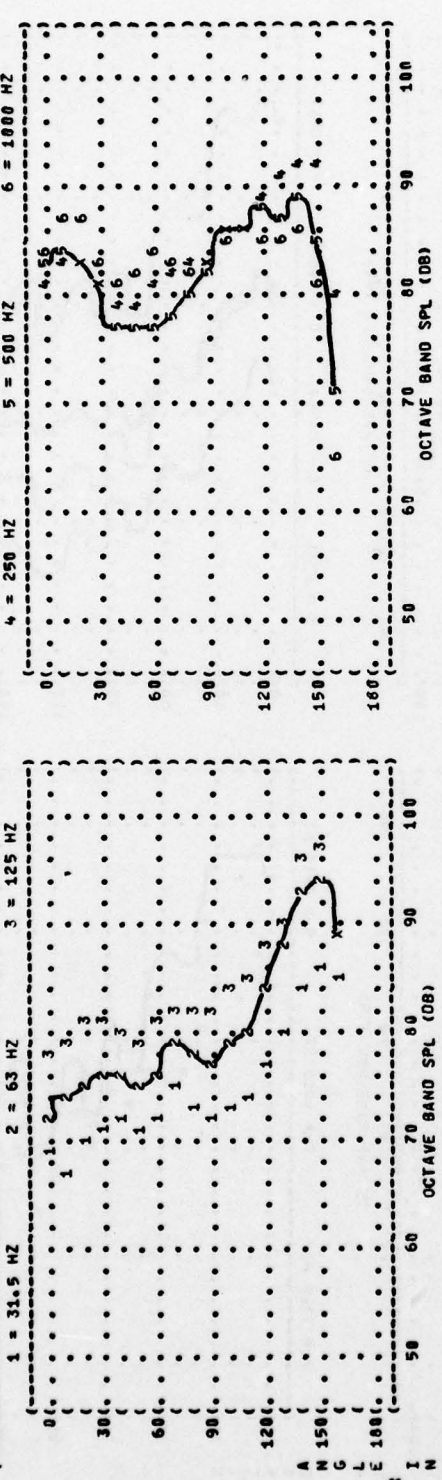
3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT: F-101B AIRCRAFT J57-P-55 ENGINE FAR FIELD NOISE

OPERATION: 80% RPM SINGLE ENGINE FREE FLOW

METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %

IDENTIFICATIONS: OMEGA 1.4 TEST 76-011-001 RUN 02 24 JAN 79 PAGE 6



ANALYSIS

DESIGN

PSIL (DB) A = OASLA O = OASPL P = PNLT

FIGURE 1: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY: () IDENTIFICATION: ()

F-101B AIRCRAFT (90% RPM) TEMP = 15 C) OMEGA 1.4

J57-P-55 ENGINE (SINGLE ENGINE) BAR PRESS = .760 M HG) TEST 76-011-001

FAR FIELD NOISE (FREE FLOW) REL HUMID = 70 %) RUN 03

() 24 JAN 79

() PAGE 6

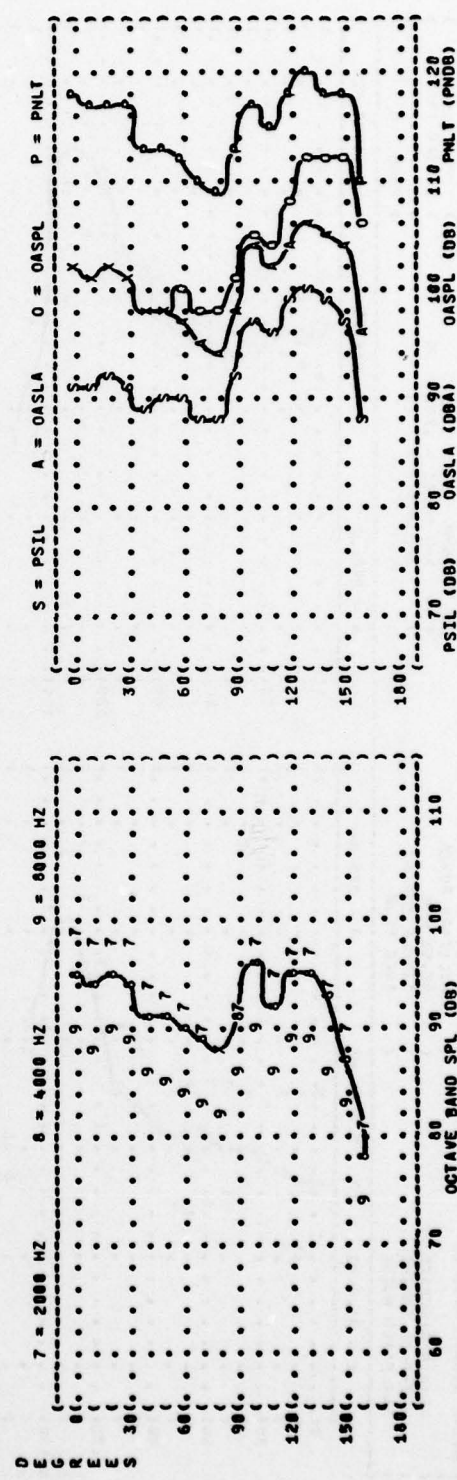
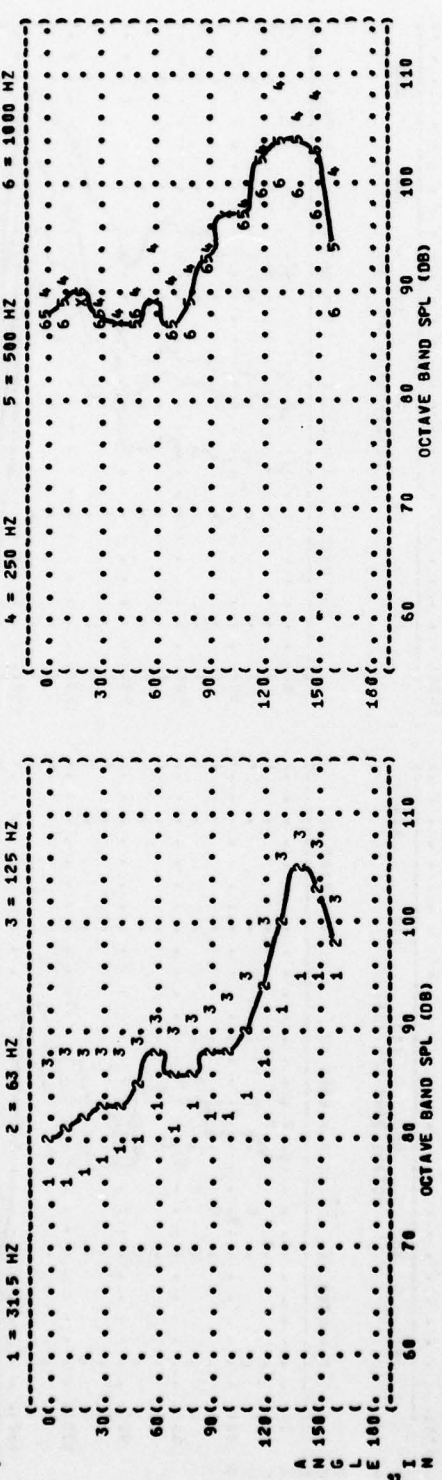


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

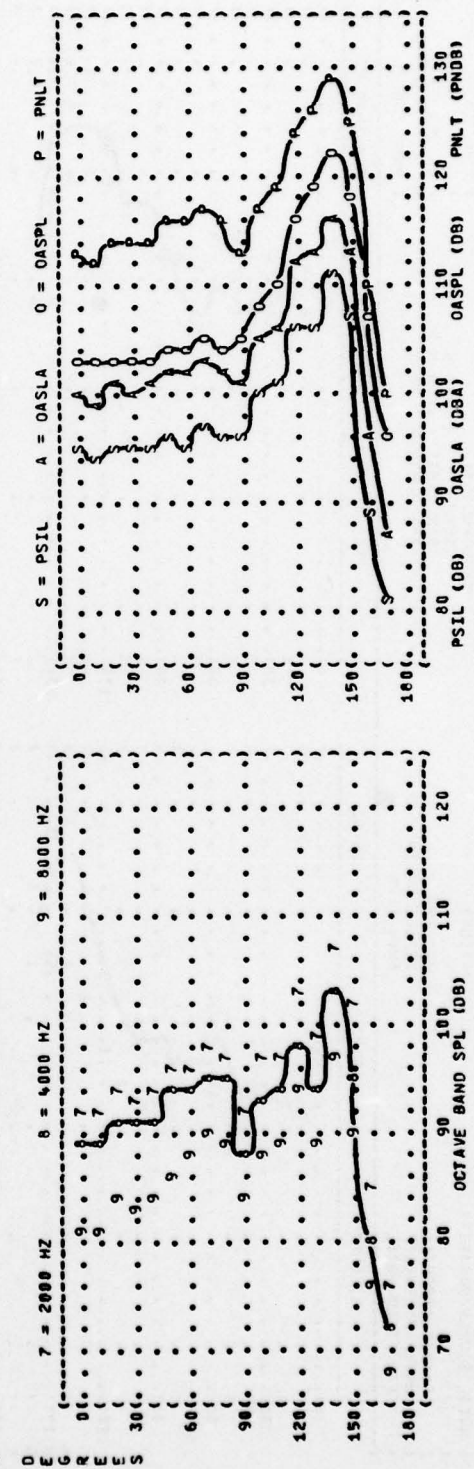
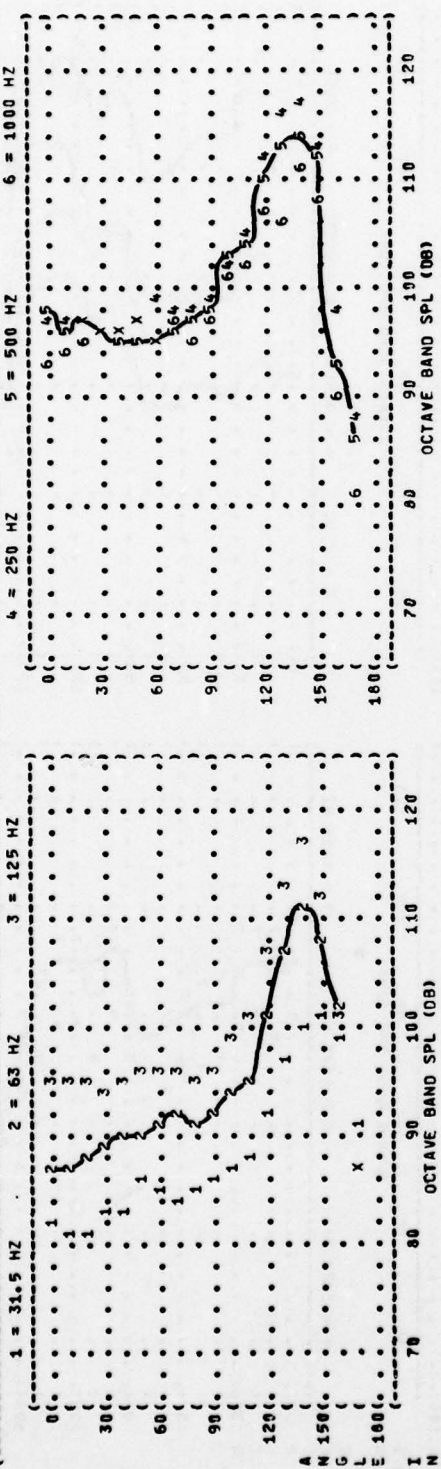
NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
95.5% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 78-011-001
RUN 04
24 JAN 79
PAGE 6



(FIGURE: NORMALIZED FARFIELD NOISE LEVELS
 (3 DISTANCE = 100 METERS
 (NOISE SOURCE/SUBJECT:
 (F-101B AIRCRAFT
 (J57-P-55 ENGINE
 (FAR FIELD NOISE
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 78-011-001
 (RUN 05
 (24 JAN 79
 (PAGE 5
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %

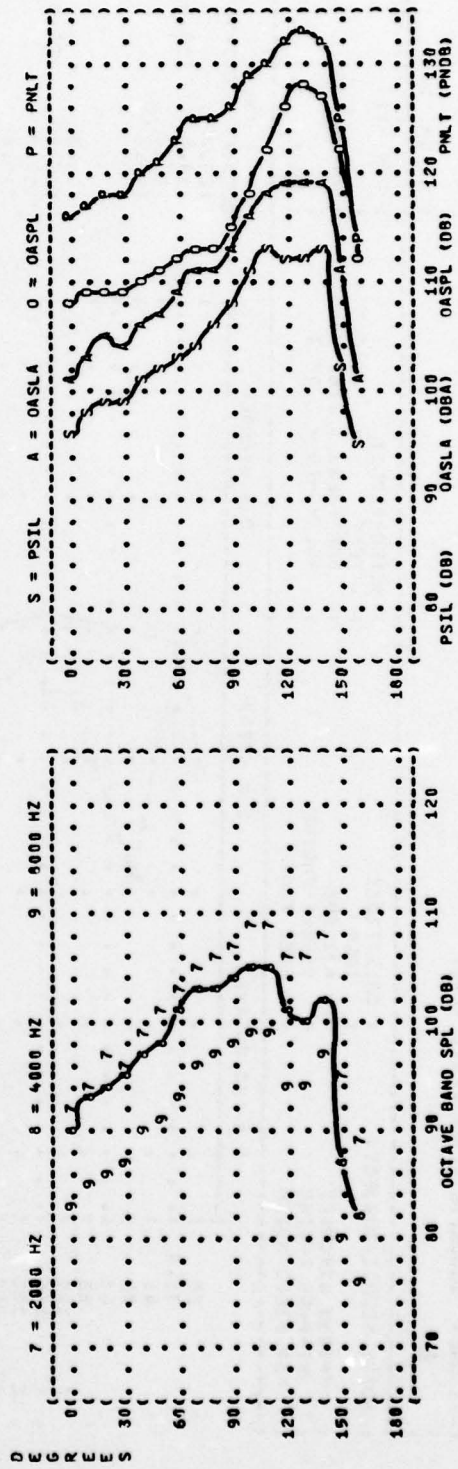
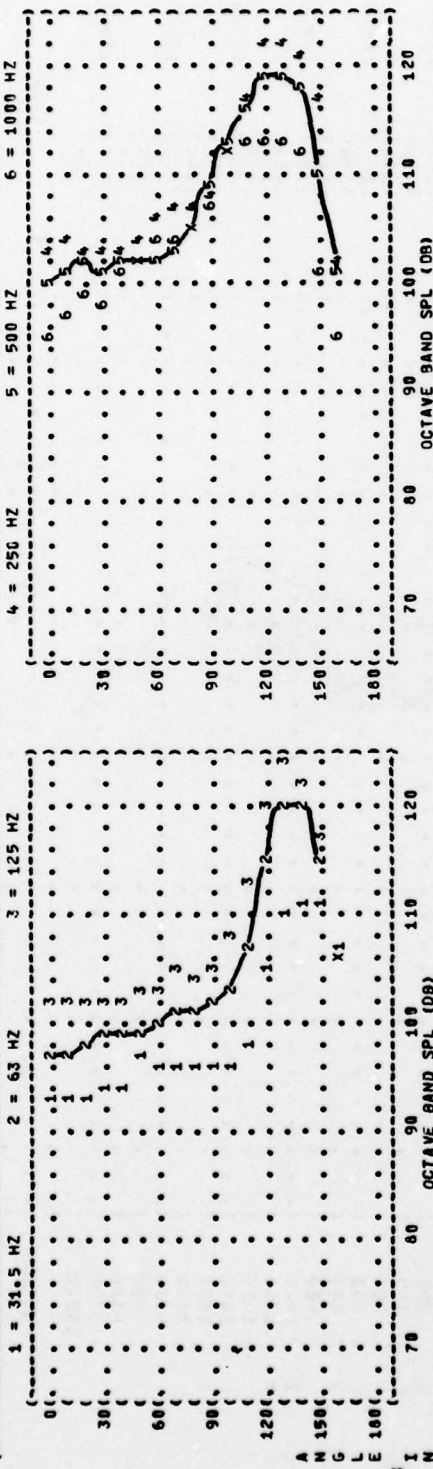


FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4

TEST 78-011-001

PUN 01

24 JAN 79

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATION:

TEMP = 28 C

BAR PRESS = .762 M HG

REL HUMID = 82 %

NOISE SOURCE/SUBJECT:

OPERATION:

TEMP = 28 C

BAR PRESS = .762 M HG

REL HUMID = 82 %

NOISE SOURCE/SUBJECT:

OPERATION:

TEMP = 28 C

BAR PRESS = .762 M HG

REL HUMID = 82 %

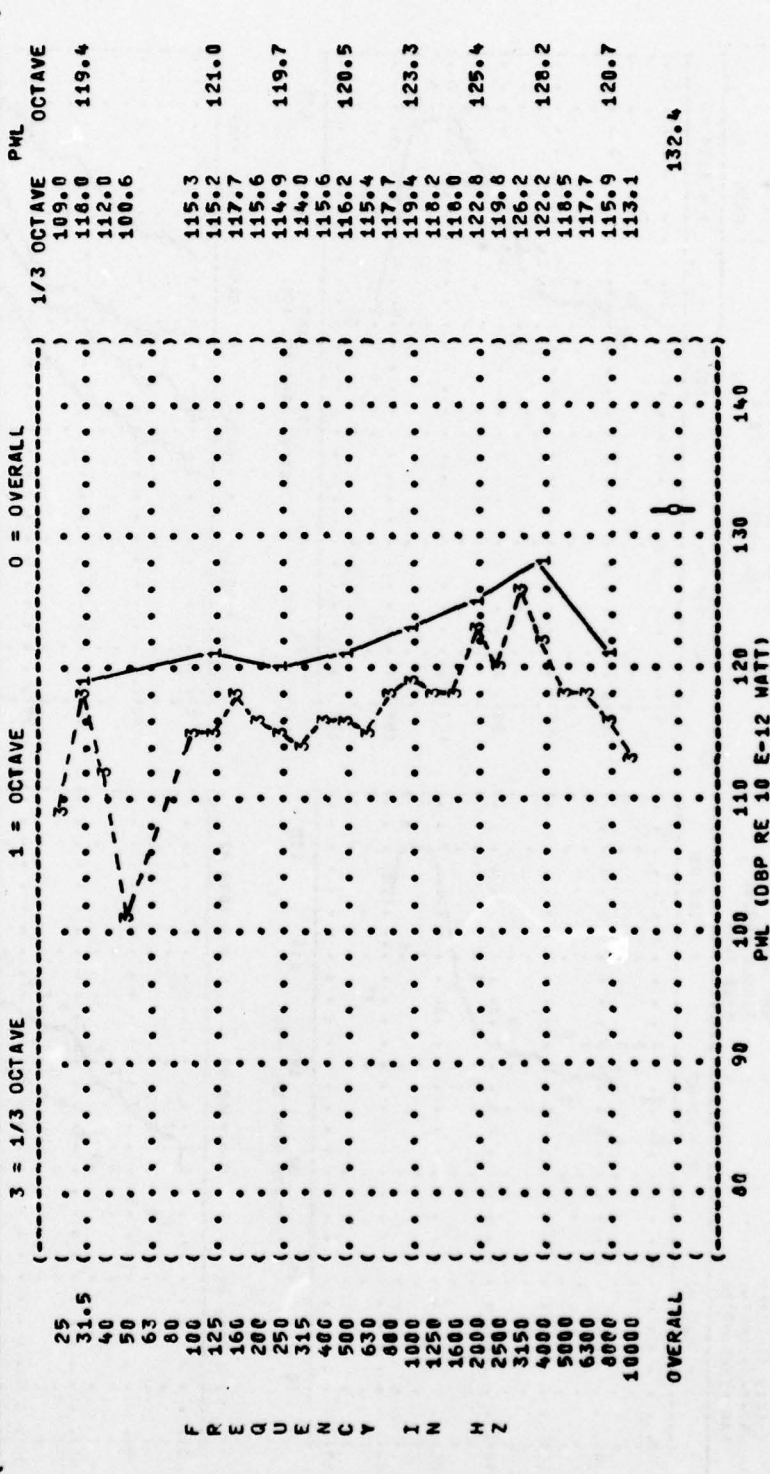


FIGURE 8: ACOUSTIC POWER LEVEL (PWL)



FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4

TEST 78-011-001

RUN 04

18 SEP 78

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATION:

MILITARY POWER

95.5% RPM

SINGLE ENGINE

FREE FLOW

METEOROLOGY:

TEMP = 28 C

BAR PRESS = .762 M HG

REL HUMID = 82 %

3 = 1/3 OCTAVE

1 = OCTAVE

0 = OVERALL

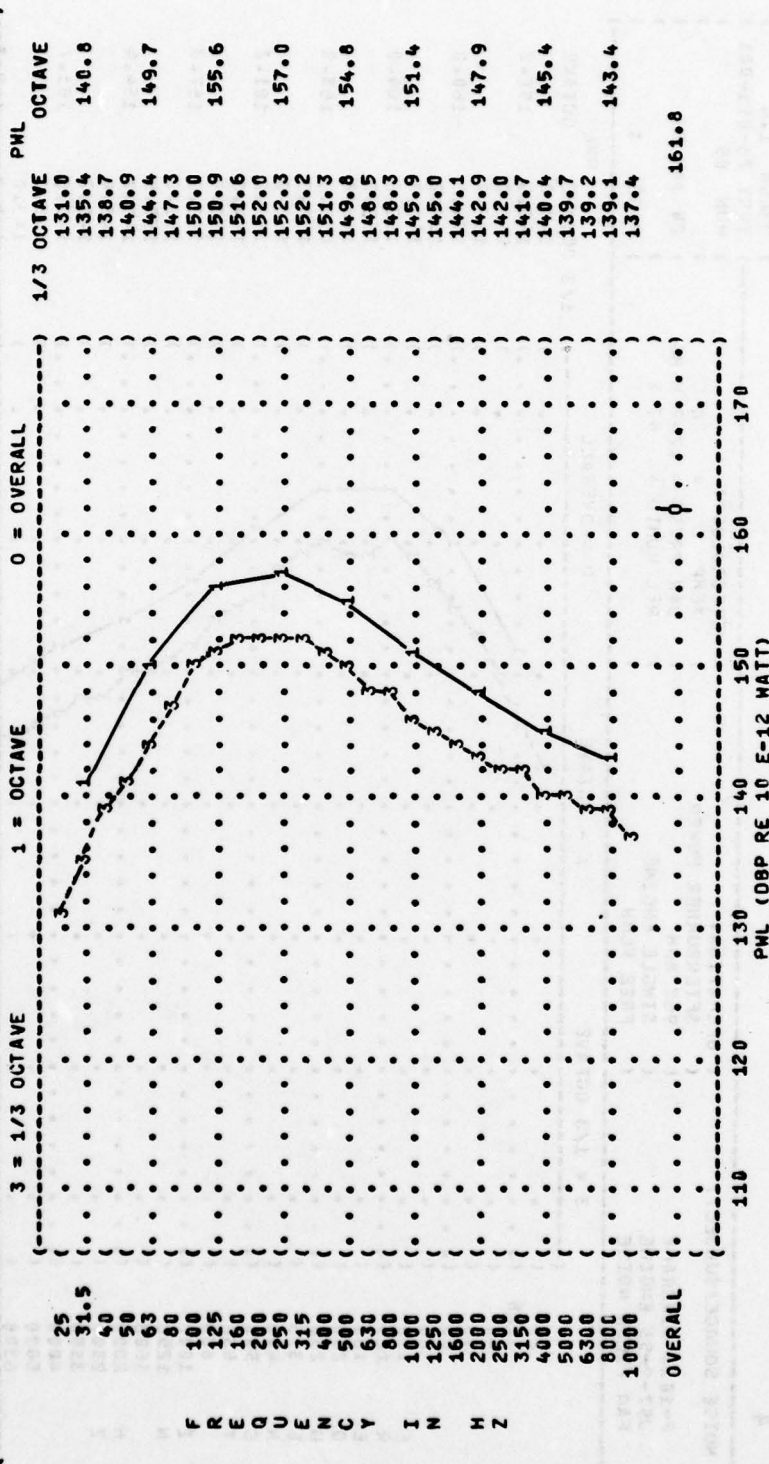


FIGURE: ACOUSTIC POWER LEVEL (PWL)

IDENTIFICATION:

OMEGA 1.4

TEST 78-011-001

RUN 05

24 JAN 79

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATION:

AFTERBURNER POWER

96% RPM

SINGLE ENGINE

FREE FLOW

METEOROLOGY:

TEMP = 28 C

BAR PRESS = .762 M HG

REL HUMID = 82 %

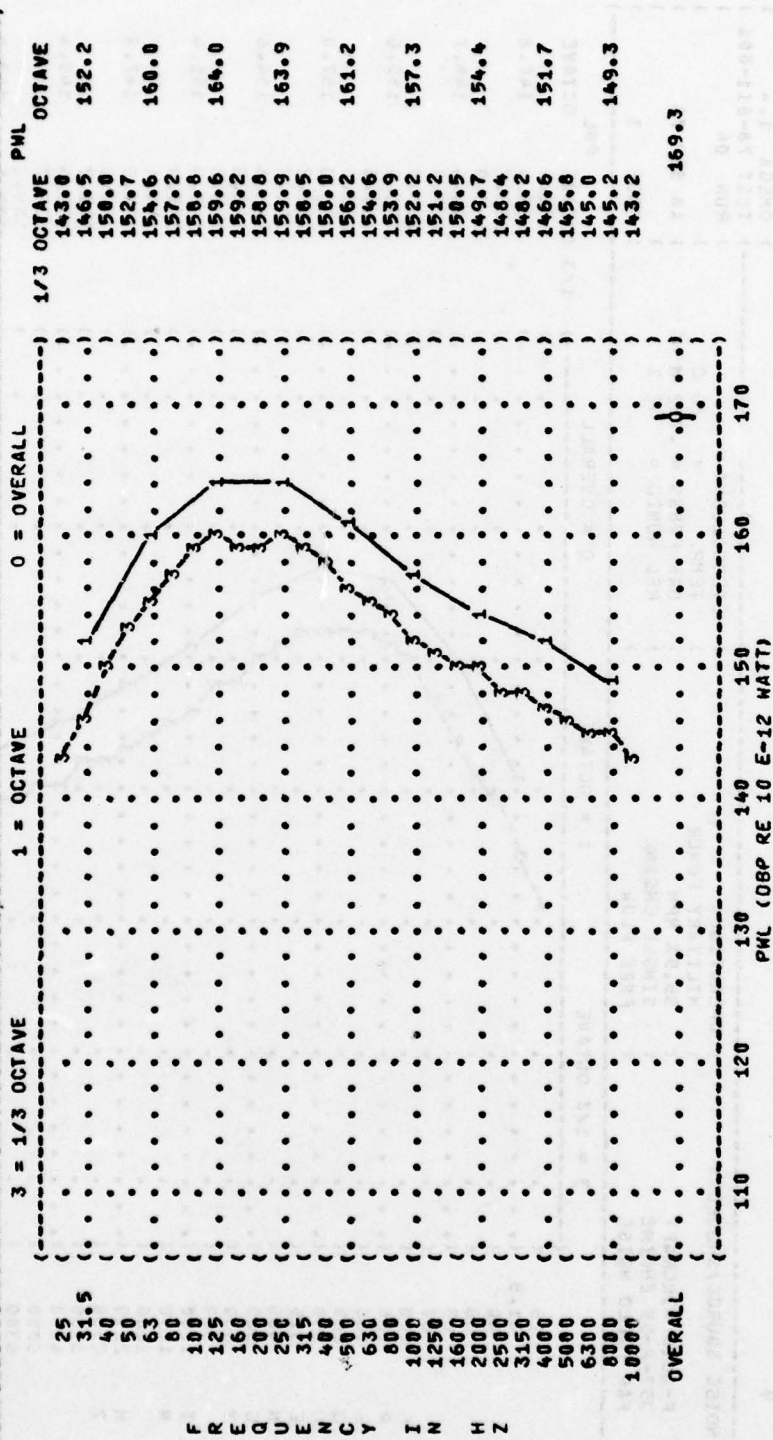


TABLE: DIRECTIVITY INDEX (DB)																			
6																			
NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:) IDENTIFICATION:)																			
F-101B AIRCRAFT (IDLE) TEMP = 28 C) OMEGA 1.4																			
J57-P-55 ENGINE (62% RPM) BAR PRESS = .762 M HG) TEST 78-011-001																			
FAR FIELD NOISE (SINGLE ENGINE) REL HUMID = 82 %) RUN 01																			
(FREE FLOW)) 18 SEP 78																			
) PAGE 4																			
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	1	2	-1		0	0	0	1	2	4	0	-1	1	1	-1	-1			
31.5	-2	-5	-3	-4	-3	0	0	2	1	1	1	0	0	0	0	0	-2	-3	-4
40						2	1	2	2	11									
50																			
63																			
80																			
100																			
125																			
160																			
200																			
250																			
315																			
400																			
500																			
630																			
800																			
1000																			
1250																			
1600																			
2000																			
2500																			
3150																			
4000																			
5000																			
6300																			
8000																			
10000																			
OCTAVE																			
31.5	-2	-4	-3	-3	-3	1	0	2	1	1	1	0	0	0	0	0	-2		
63																			
125																			
250																			
500																			
1000																			
2000																			
4000																			
8000																			
10000																			
OVERALL	7	9	7	6	3	0	0	-2	-4	-3	-5	-4	-4	-5	-4	-4	-5	-13	-16

TABLE: DIRECTIVITY INDEX (DB)																			
6																			
IDENTIFICATION:																			
OMEGA 1.4																			
TEST 78-011-001																			
NOISE SOURCE/SUBJECT:																			
F-101B AIRCRAFT																			
J57-P-55 ENGINE																			
FAR FIELD NOISE																			
OPERATION:																			
80% RPM																			
SINGLE ENGINE																			
FREE FLOW																			
METEOROLOGY:																			
TEMP = 28 C																			
BAR PRESS = .762 M HG																			
REL HUMID = 82 %																			
PAGE 4																			
FREQ	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
(HZ)																			
1/3 OCTAVE																			
25	-5	-5	-3	-3	-2	-2	-6	-2	-5	-6	-5	-5	-3	2	4	6	7	8	7
31.5	-8	-8	-8	-6	-5	-7	-7	-2	-4	-5	-5	-5	-3	2	5	7	8	7	8
40	-12	-8	-10	-8	-8	-8	-6	-4	-5	-6	-5	-4	-2	2	6	8	6	6	6
50	-12	-11	-11	-8	-8	-9	-8	-5	-8	-7	-5	-4	-2	2	7	8	4	4	4
63	-12	-11	-10	-9	-8	-9	-8	-6	-6	-7	-5	-6	-1	3	8	8	3	3	3
80	-14	-12	-10	-9	-10	-10	-10	-7	-7	-9	-7	-5	-2	2	7	9	2	2	2
100	-13	-11	-8	-8	-9	-10	-9	-8	-8	-7	-5	-3	-1	1	7	9	0	0	0
125	-10	-10	-7	-7	-8	-9	-8	-7	-7	-6	-3	-2	1	2	7	8	-2	-4	-4
160	-9	-8	-7	-6	-8	-8	-6	-5	-5	-4	-2	0	2	4	5	5	-8	-8	-8
200	-7	-5	-5	-5	-7	-7	-5	-4	-3	-3	0	0	2	4	5	5	-10	-10	-10
250	-5	-3	-3	-3	-6	-7	-5	-4	-3	-3	0	0	1	3	4	5	1	1	1
315	-4	-3	-3	-3	-7	-8	-5	-5	-4	-2	1	1	2	4	5	1	-13	-13	-13
400	-3	-2	-1	-1	-8	-9	-8	-7	-4	-2	2	2	3	3	4	1	-16	-16	-16
500	-1	0	0	0	-2	-5	-5	-6	-5	-2	2	2	3	2	4	4	-17	-17	-17
630	0	2	2	2	-2	-5	-5	-6	-5	-2	2	2	3	2	4	4	-18	-18	-18
800	1	3	3	3	-1	-2	-2	0	-2	-3	1	1	3	1	2	2	-20	-20	-20
1000	0	6	6	7	3	3	0	1	0	0	1	2	0	0	0	0	-20	-20	-20
1250	5	6	7	7	4	3	0	1	-2	-3	-2	0	-4	-4	-4	-7	-20	-20	-20
1600	5	6	6	6	5	5	0	1	-3	-3	-2	0	-4	-3	-3	-8	-22	-22	-22
2000	7	7	8	9	6	5	0	1	-2	-3	-1	1	-4	-4	-3	-8	-21	-21	-21
2500	6	7	8	8	6	5	-1	0	-3	-5	-7	-8	-5	-10	-8	-13	-25	-25	-25
3150	5	7	8	8	5	3	0	-1	-2	-3	-4	-6	-3	-7	-6	-11	-24	-24	-24
4000	5	8	8	8	5	3	0	-1	-2	-3	-4	-2	1	-3	-5	-8	-23	-23	-23
5000	5	8	8	8	5	2	0	0	-3	-4	-3	0	0	-7	-6	-9	-21	-21	-21
6300	6	8	8	8	4	3	1	1	-2	-3	-3	-3	-2	-7	-6	-9	-22	-22	-22
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10000	5	8	8	7	4	3	0	1	-2	-3	-3	-2	0	-6	-5	-8	-22	-22	-22
OCTAVE																			
31.5	-9	-11	-8	-7	-6	-7	-6	-3	-5	-6	-5	-4	-1	2	6	8	7	7	7
63	-13	-11	-10	-9	-9	-10	-9	-6	-7	-8	-6	-5	-2	3	7	9	4	4	4
125	-11	-10	-7	-7	-8	-9	-7	-7	-7	-6	-4	-3	-1	2	8	9	0	0	0
250	-5	-4	-4	-5	-7	-7	-5	-5	-4	-3	-1	0	3	4	6	5	5	-7	-7
500	-2	0	-1	-3	-7	-7	-7	-7	-4	-2	2	2	4	3	5	1	1	-14	-14
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4000	7	7	8	6	5	0	1	-2	-4	-5	-5	-3	-7	-6	-7	-11	-24	-24	-24
8000	5	8	8	4	3	0	0	-2	-3	-3	-2	-1	-5	-3	-4	-7	-22	-22	-22
OVERALL	2	3	4	1	0	-3	-2	-3	-4	-4	-2	-1	0	1	4	5	5	-2	-2

TABLE: DIRECTIVITY INDEX (DB)																			IDENTIFICATION:	
6																			OMEGA 1.4	
NOISE SOURCE/SUBJECT:																			TEST 78-011-001	
F-101B AIRCRAFT																			RUN 03	
J57-P-55 ENGINE																			18 SEP 78	
FAR FIELD NOISE																			PAGE 4	
OPERATION:																			METEOROLOGY:	
90% RPM																			TEMP = 28 C	
SINGLE ENGINE																			BAR PRESS = .762 M HG	
FREE FLOW																			REL HUMID = 82 %	
ANGLE (DEGREES)																				
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	
1/3 OCTAVE																				
25	-11	-12	-10	-10	-8	-6	-5	-7	-5	-6	-5	-3	-1	3	6	7	7	8		
31.5	-10	-10	-11	-9	-8	-7	-5	-6	-5	-4	-6	-3	0	3	6	7	7	7		
40	-13	-13	-12	-12	-9	-8	-5	-7	-6	-7	-7	-5	-2	4	7	7	6	3		
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63	-16	-15	-14	-12	-12	-12	-8	-11	-10	-8	-7	-6	-2	4	9	7	2	2		
80	-16	-15	-14	-14	-14	-12	-9	-10	-11	-10	-8	-7	-2	5	9	7	2	1		
100	-16	-15	-13	-14	-13	-12	-9	-10	-9	-9	-8	-6	-1	4	8	7	7	1		
125	-13	-14	-12	-13	-13	-13	-10	-12	-10	-9	-7	-6	-1	6	8	7	7	1		
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315	-11	-9	-11	-11	-13	-11	-9	-10	-9	-7	-3	-3	2	6	6	6	5	-1		
400	-10	-10	-10	-10	-12	-12	-9	-10	-9	-6	-2	-1	3	7	6	5	6	-3		
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630	-9	-8	-7	-10	-10	-9	-9	-11	-9	-5	0	0	4	5	5	4	4	-6		
800	-9	-8	-7	-9	-9	-8	-7	-11	-9	-3	1	2	4	5	5	4	2	-7		
1000	-8	-6	-6	-8	-6	-7	-6	-9	-9	-3	3	2	4	5	4	2	-1	-10		
1250	-6	-7	-4	-6	-5	-5	-4	-6	-6	-3	4	2	4	4	2	1	-2	-12		
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2500	4	4	4	4	0	0	-2	-5	-6	-2	3	0	2	3	0	-6	-16	-16		
3150	0	0	1	0	-2	-2	-3	-4	-5	-1	4	0	3	3	-1	-6	-15	-15		
4000	4	2	4	3	-2	-1	-2	-3	-5	-1	3	-1	2	3	1	-3	-12	-12		
5000	3	1	4	3	-1	-1	-2	-4	-5	-1	3	-2	3	3	0	-4	-13	-13		
6300	4	2	4	3	-1	-2	-2	-4	-4	-1	3	-1	2	2	0	-4	-13	-13		
8000	2	1	3	2	-1	-3	-3	-4	-5	0	3	0	3	2	-1	-4	-13	-13		
10000	4	2	5	3	0	-1	-1	-3	-5	1	3	-1	2	2	-1	-3	-11	-11		
OCTAVE																				
31.5	-12	-12	-11	-10	-9	-8	-5	-7	-5	-6	-6	-4	-1	4	7	7	7	7		
63	-16	-15	-14	-13	-13	-11	-8	-10	-10	-8	-8	-6	-2	4	9	7	7	2		
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8000	3	2	4	2	-1	-2	-2	-4	-5	0	3	-1	3	2	-1	-4	-13	-13		
OVERALL																				
	-5	-5	-4	-5	-8	-8	-7	-9	-8	-6	-1	-2	2	6	6	6	6	0		

TABLE: DIRECTIVITY INDEX (DB)																	IDENTIFICATION:		
6																	OMEGA 1.4		
																	TEST 78-011-001		
NOISE SOURCE/SUBJECT:																	RUN 04		
(F-101B AIRCRAFT) METEOROLOGY:		
(J57-P-55 ENGINE) TEMP = 28 C		
(FAR FIELD NOISE) BAR PRESS = .762 M HG		
) REL HUMID = 82 %		
) PAGE 4		
FREQ	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
(HZ)																			
1/3 OCTAVE																			
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31.5	-11	-13	-12	-11	-11	-8	-9	-9	-8	-7	-7	-6	-2	4	7	8	7	0	
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100	-15	-15	-14	-14	-13	-11	-11	-13	-13	-12	-10	-8	-1	6	9	4	-5	-21	
125	-14	-15	-14	-15	-13	-14	-13	-12	-12	-12	-11	-9	-7	6	10	4	-7	-20	
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200	-12	-11	-12	-13	-13	-12	-9	-11	-11	-11	-8	-5	2	6	8	4	-10	-22	
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800	-11	-9	-8	-8	-9	-7	-10	-8	-10	-7	-2	-1	3	4	8	5	-13	-22	
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6300	-8	-8	-5	-6	-5	-3	-2	0	-1	-6	-2	-1	4	-1	7	-1	-15	-22	
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10000	-10	-10	-8	-9	-7	-5	-3	-1	-1	-6	-1	0	4	0	7	1	-14	-21	
OCTAVE																			
31.5	-11	-12	-12	-10	-10	-7	-8	-9	-8	-7	-6	-6	-1	3	7	7	6	-2	
63	-15	-15	-14	-13	-12	-12	-11	-10	-11	-9	-8	-7	-1	5	9	6	0	-15	
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10000	-9	-9	-6	-7	-6	-4	-2	0	-1	-6	-1	0	4	0	7	1	-14	-21	
OVERALL	-11	-11	-10	-11	-11	-10	-9	-9	-9	-9	-6	-4	2	6	8	5	-7	-18	

FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)
EQUAL LEVEL CONTOURS (DB)

5

IDENTIFICATION:

OMEGA 1.4

TEST 78-011-001

RUN 02

NOISE SOURCE/SUBJECT:

OPERATION:

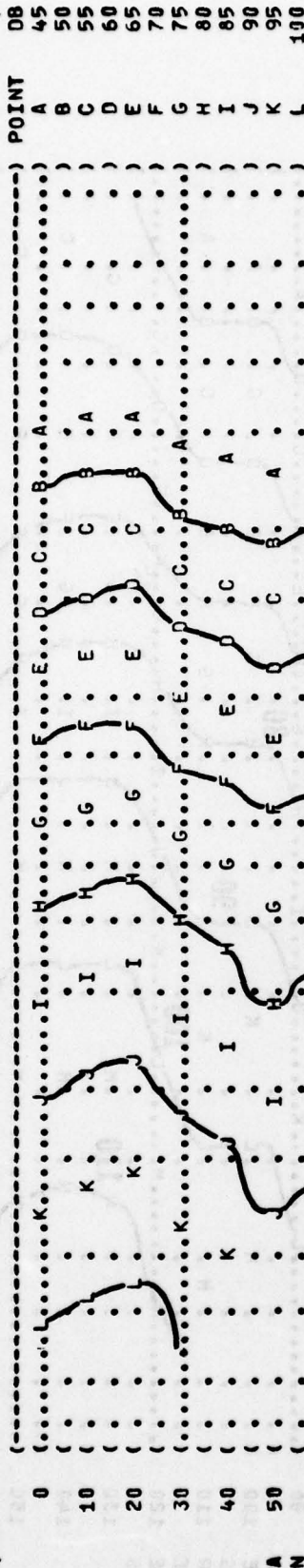
METEOROLOGY:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

(80% RPM
(SINGLE ENGINE
(FREE FLOW

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

PAGE 13



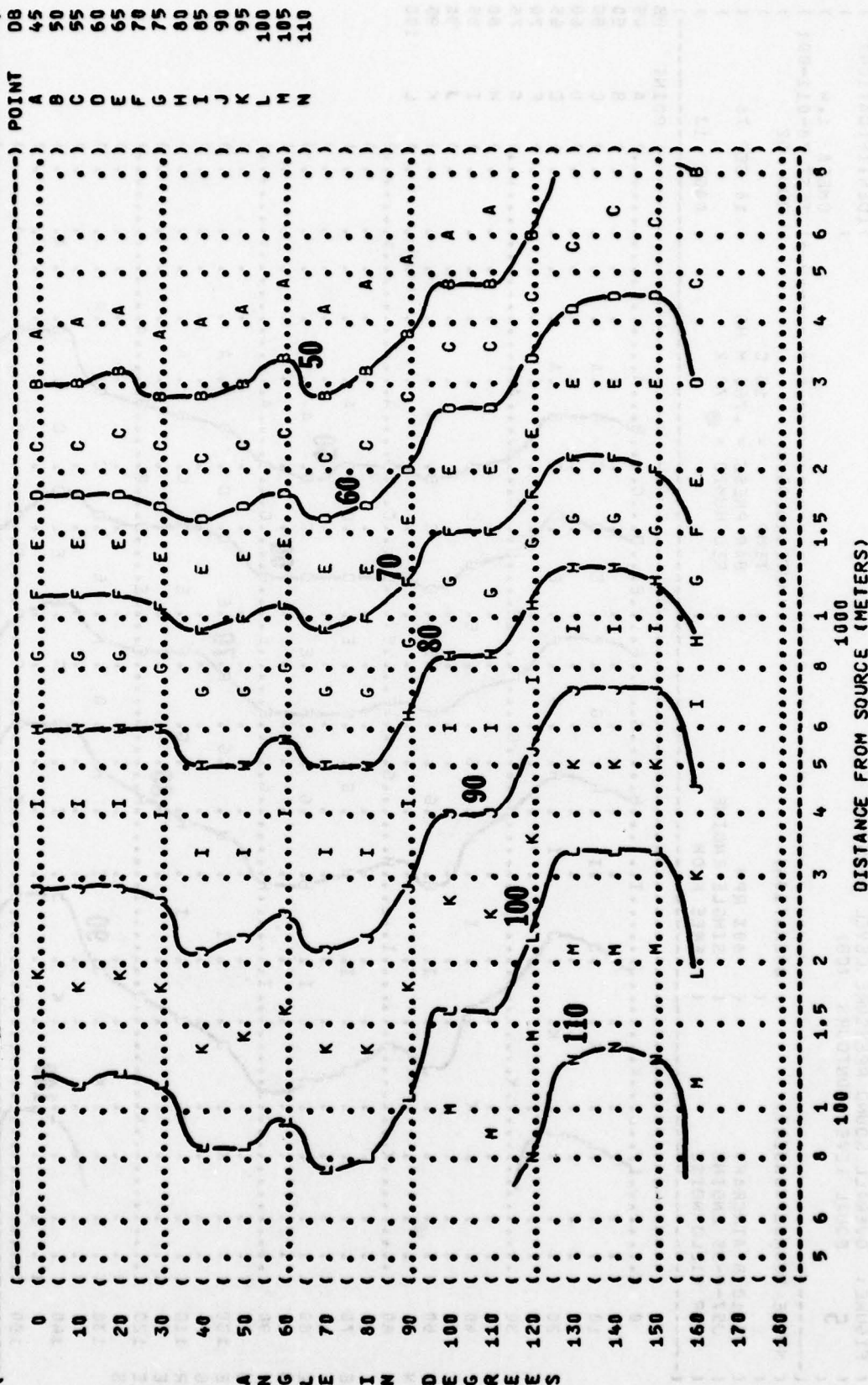
A N G L E I N D E G R E E S

DISTANCE FROM SOURCE (METERS)

FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)
EQUAL LEVEL CONTOURS (DB)

5

IDENTIFICATION:
OMEGA 1-4
TEST 78-011-001
RUN 03
METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
OPERATION:
90% RPM
SINGLE ENGINE
FREE FLOW
NOISE SOURCE/SUBJECT:
F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE



ANGLE IN DEGREES

FIGURE 3 OVERALL SOUND PRESSURE LEVEL (OASPL)
EQUAL LEVEL CONTOURS (DB)

5

IDENTIFICATION:

OMEGA 1.4
TEST 78-011-001
RUN 04

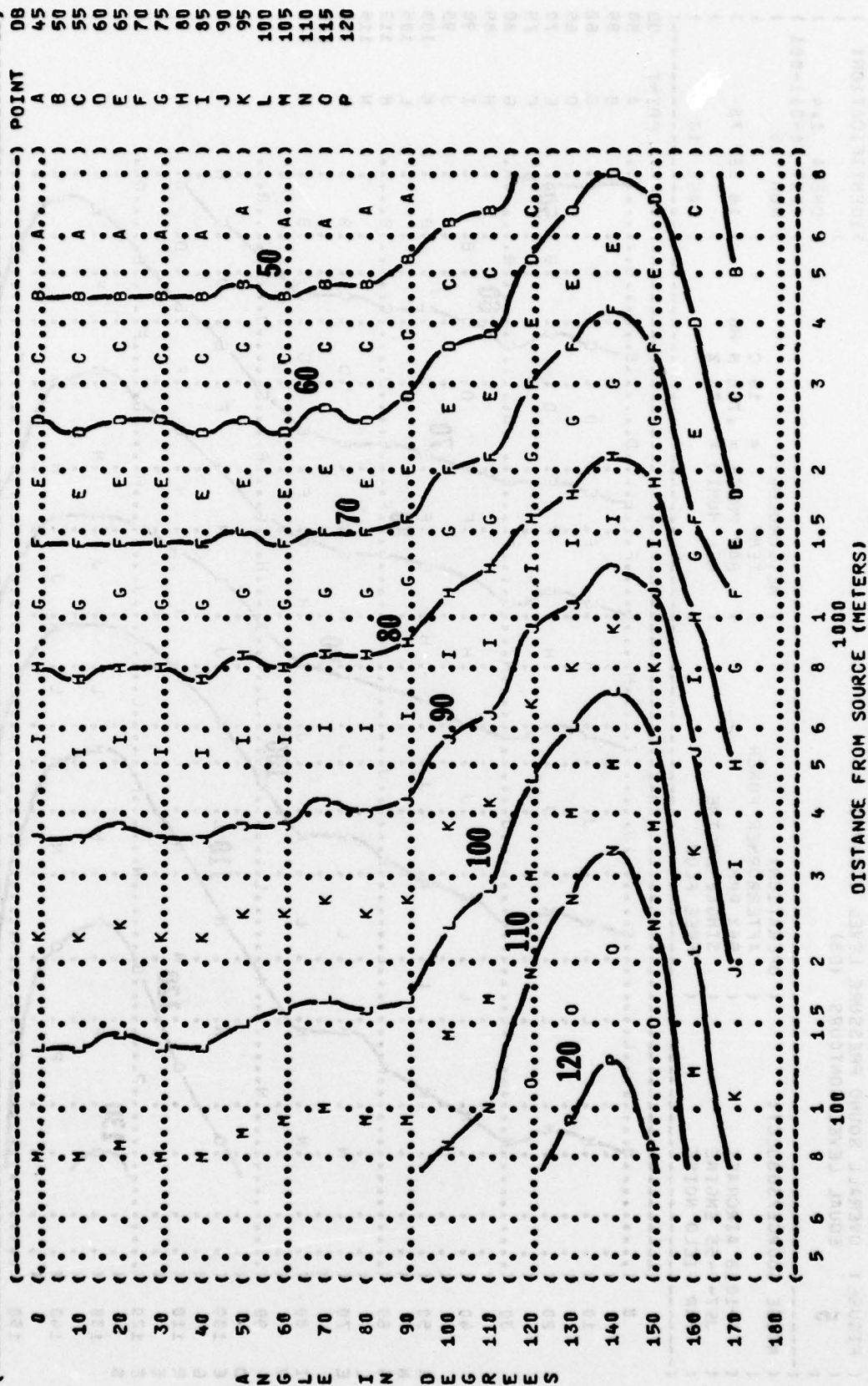
NOISE SOURCE/SUBJECT:

OPERATIONS:
MILITARY POWER
95.5% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

PAGE 13



IDENTIFICATION:

OMEGA 1.4

1) METEOROLOGY:

05
RUN

BAR PRESS = .760 M HG

1

PAGE 13



DISTANCE FROM SOURCE (METERS)

IDENTIFICATION:)
)
)

OMEGA 1.4

METEOROLOGY:

RUN 01

TEMP = 15 C

BAR PRESS = 0.760 M HG



420 JE HZ 05104555

((FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
 ((6
 ((IDENTIFICATION:
 ((OMEGA 1.4
 ((TEST 78-011-001
 ((RUN 02
 ((NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:
 ((F-101B AIRCRAFT (80% RPM) TEMP = 15 C
 ((J57-P-55 ENGINE (SINGLE ENGINE) BAR PRESS = .760 M HG
 ((FAR FIELD NOISE (FREE FLOW) REL HUMID = 70 %
 ((PAGE 14
 ((

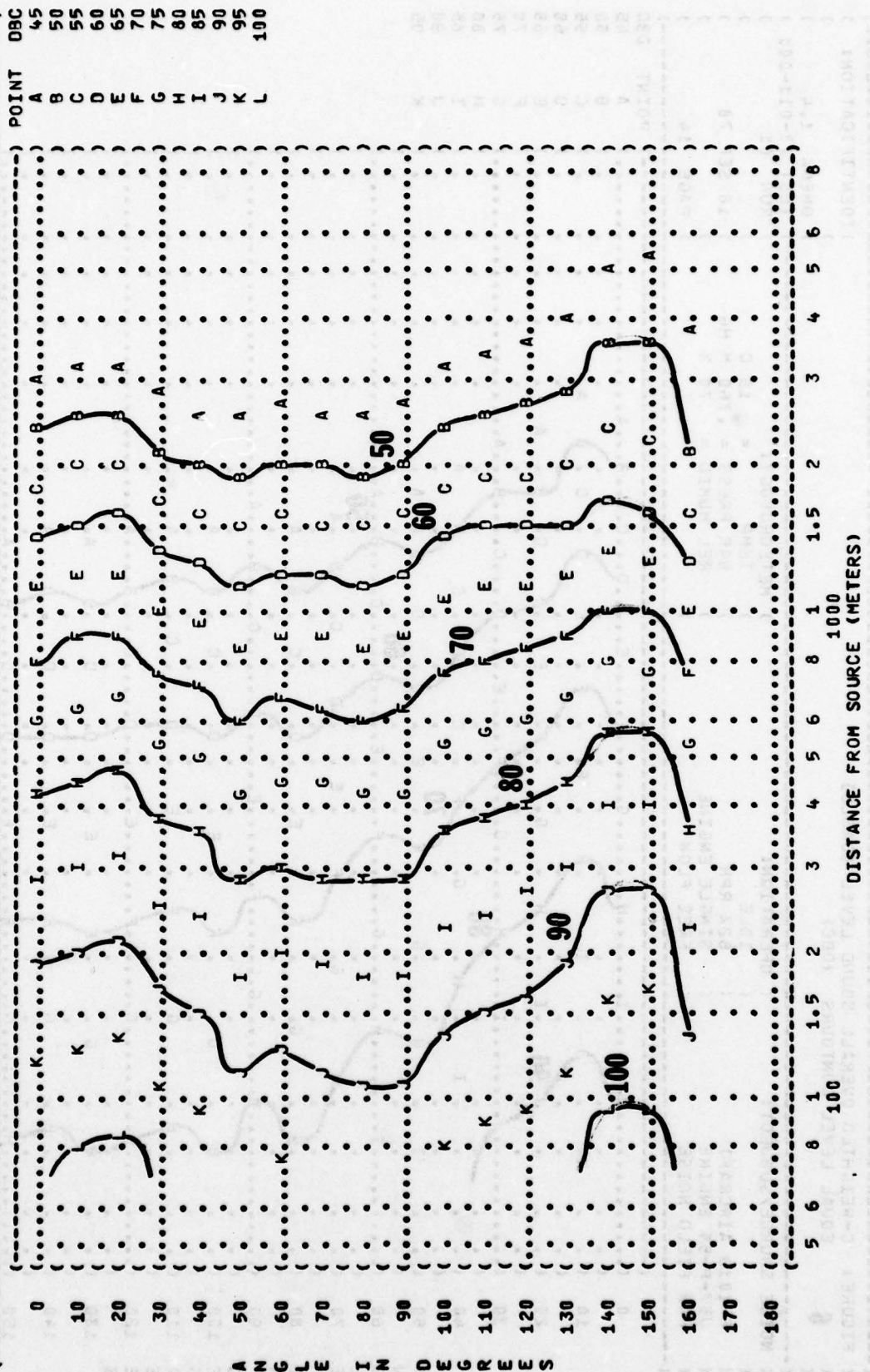


FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
 6
 EQUAL LEVEL CONTOURS (DBC)

NOISE SOURCE/SUBJECT: () OPERATION: ()
 () F-101B AIRCRAFT () 90% RPM
 () J57-P-55 ENGINE () SINGLE ENGINE
 () FAR FIELD NOISE () FREE FLOW

METEOROLOGY: ()
 () TEMP = 15 C
 () BAR PRESS = .760 M HG
 () REL HUMID = 70 %

IDENTIFICATION: ()
 () OMEGA 1.4
 () TEST 78-011-001
 () RUN 03
 () 18 SEP 78
 () PAGE 14

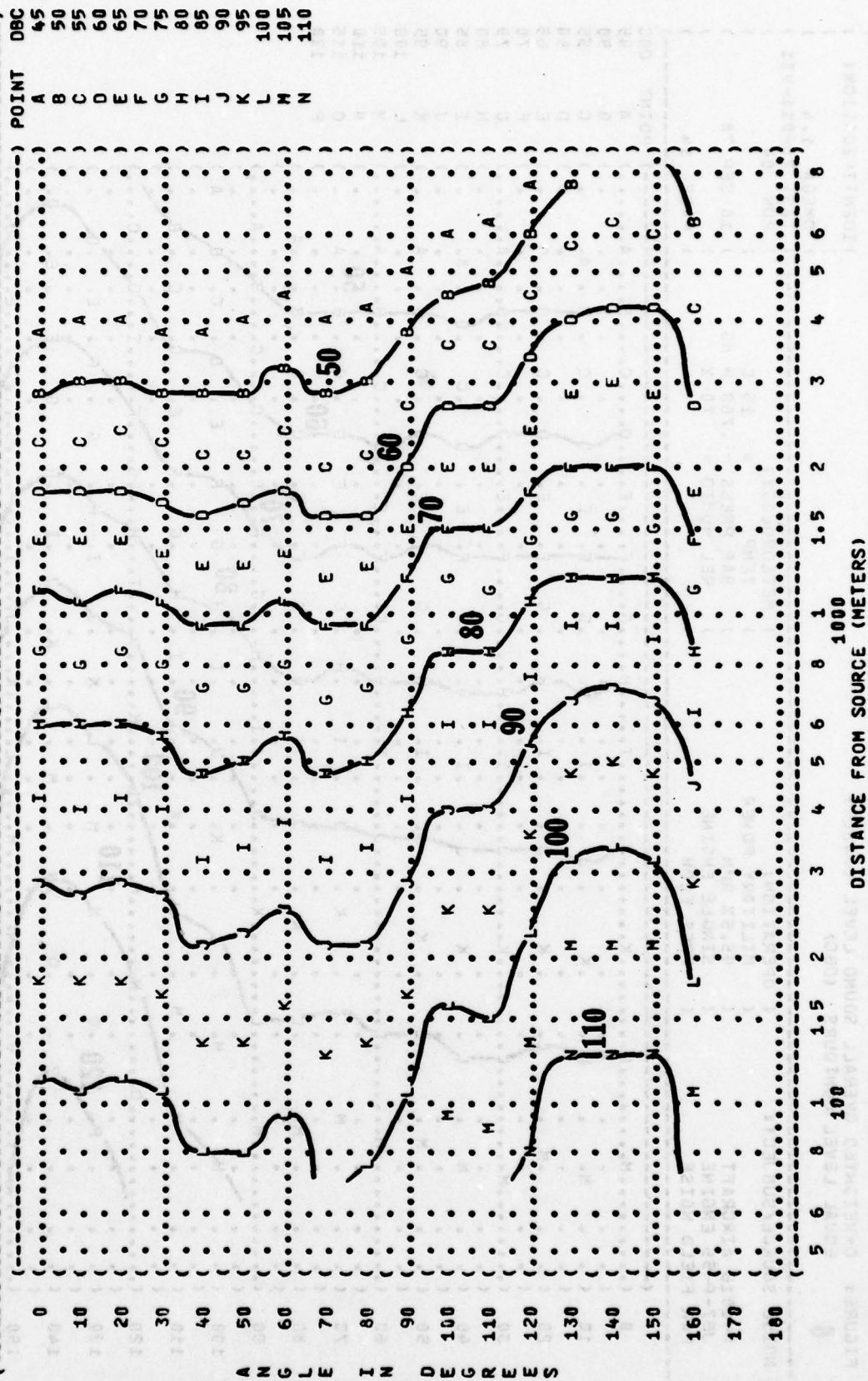


FIGURE 3 C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
EQUAL LEVEL CONTOURS (DBC)

6

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

OPERATION:

MILITARY POWER
95.5% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

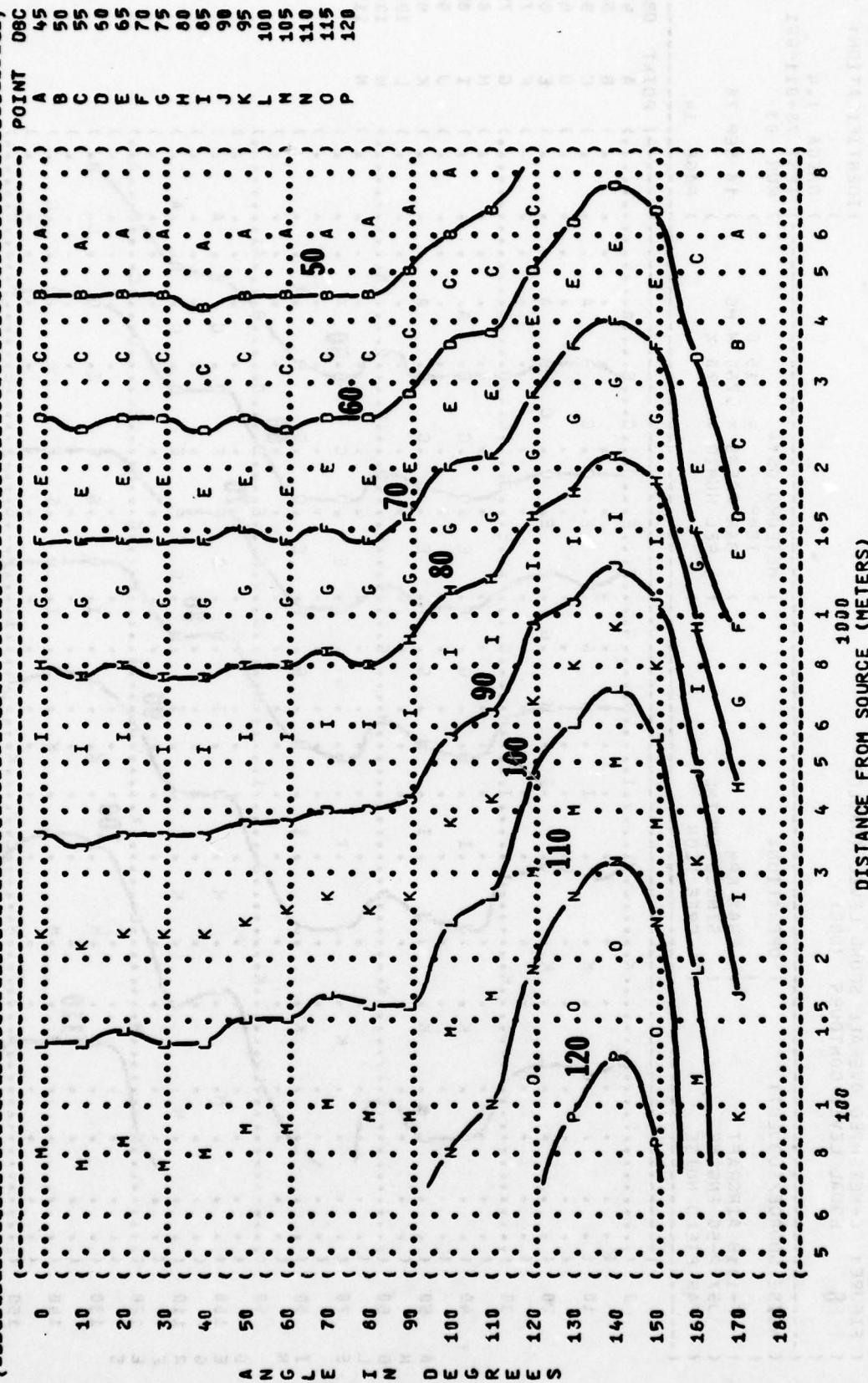
OMEGA 1.4

TEST 78-011-001

RUN 04

18 SEP 78

PAGE 14



DISTANCE FROM SOURCE (METERS)

EQUAL LEVEL CONTOURS (DBC)

OMEGA 1.4

OMEGA 1.4

RUN 05

RUN 05

BAR PRESS = .760 M HG

מכרז

TEMP

) BAR PRESS =

DEI HINTU

(AFTERBURN

(96% RPM

SINGLE F

F-101B AIRCRAFT

157-P-55 FNGTNE

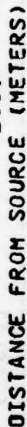
F-101B AIRCRAFT

157-P-55 FNGTNE

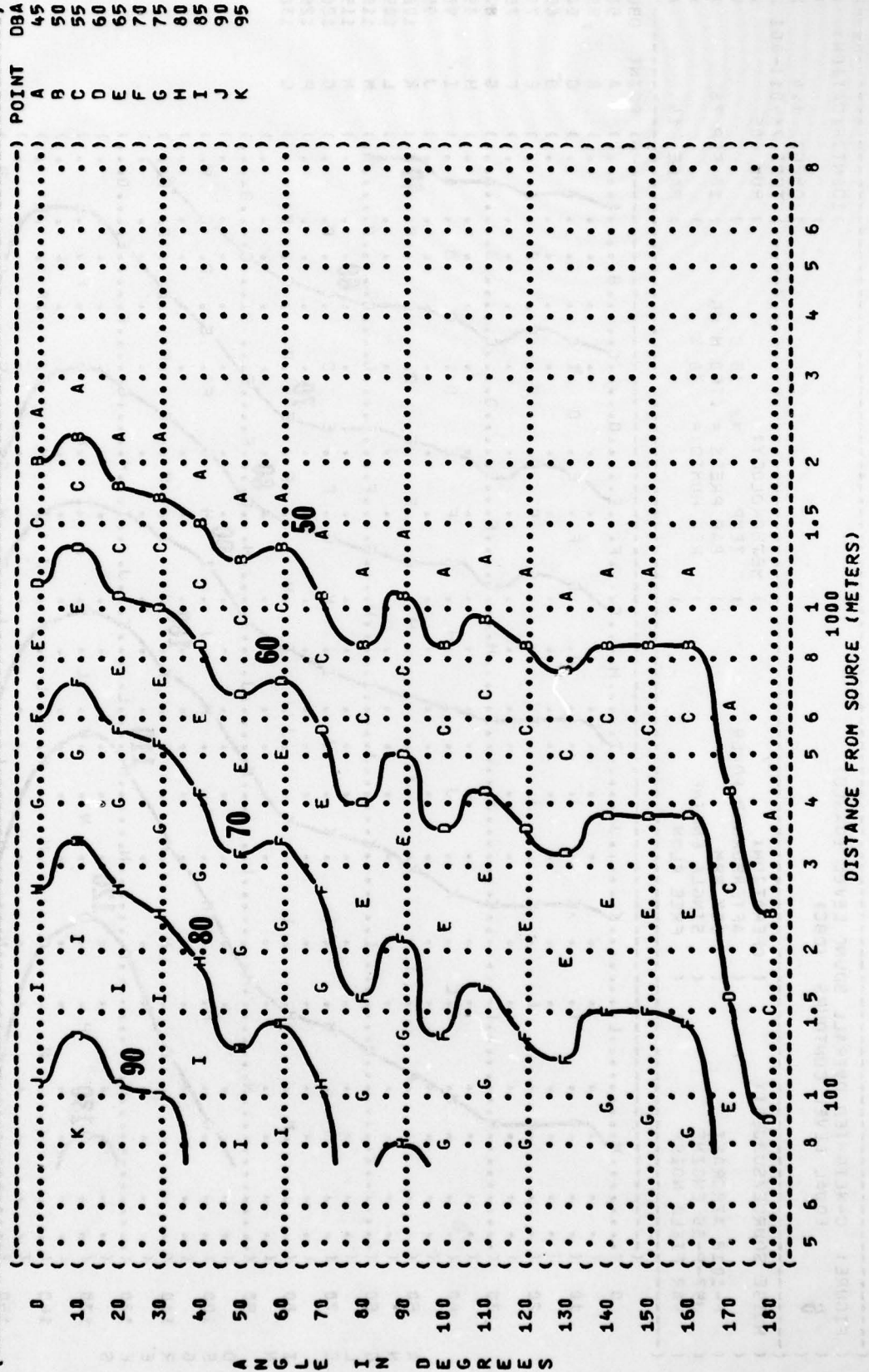
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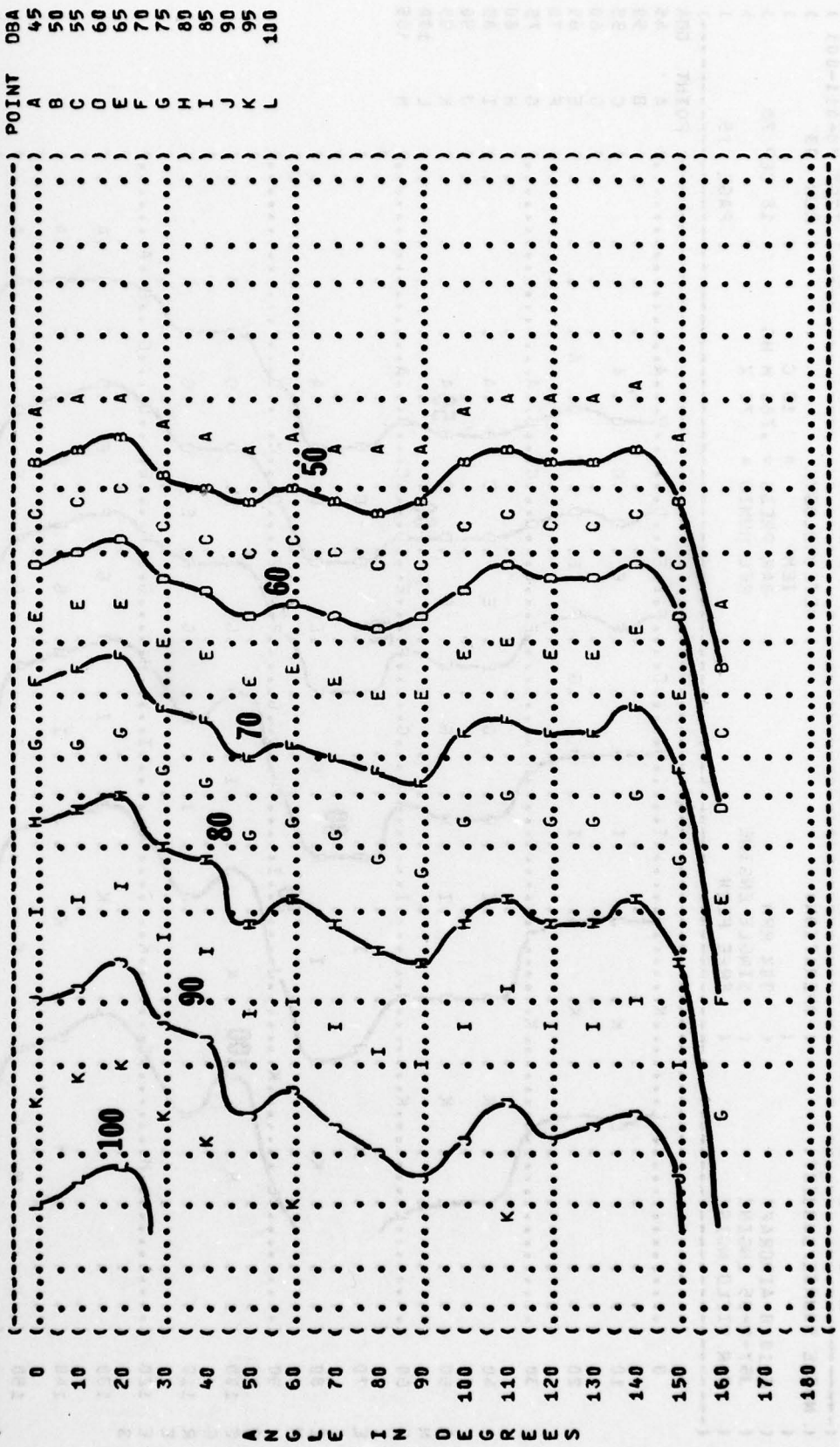
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420 JW HZ 6504555

[illegible]

((FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
 ((7
 ((EQUAL LEVEL CONTOURS (DBA)
 (() IDENTIFICATION:)
 (() OMEGA 1.4
 (() TEST 78-011-001
 (() RUN 02
 (() METEOROLOGY:)
 (() TEMP = 15 C
 (() BAR PRESS = .760 M HG
 (() REL HUMID = 70 %
 (() 18 SEP 78
 (() PAGE 15
 (() NOISE SOURCE/SUBJECT: (OPERATION:)
 (() F-101B AIRCRAFT (80% RPM
 (() J57-P-55 ENGINE (SINGLE ENGINE
 (() FAR FIELD NOISE (FREE FLOW



(() POINT DBA
 (() A 45
 (() B 50
 (() C 55
 (() D 60
 (() E 65
 (() F 70
 (() G 75
 (() H 80
 (() I 85
 (() J 90
 (() K 95
 (() L 100

IDENTIFICATION:

OMEGA 1.4

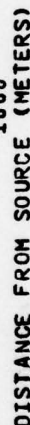
METEOROLOGY:

RUN 0

BAR PRESS = .760 M HG

REL HUMID = 70 %

POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105



IDENTIFICATION:)

7

OMEGA 1.4

TEST 78-011-001

NOISE SOURCE/SUBJECT:

(OPERATION:

(MILITARY POWER

F-1018 AIRCRAFT (95.5% RPM

J57-P-55 ENGINE (SINGLE ENGINE

FAR FIELD NOISE (FREE FLOW

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

PAGE 15

0
0
0
0
0
0
0
0
0
0

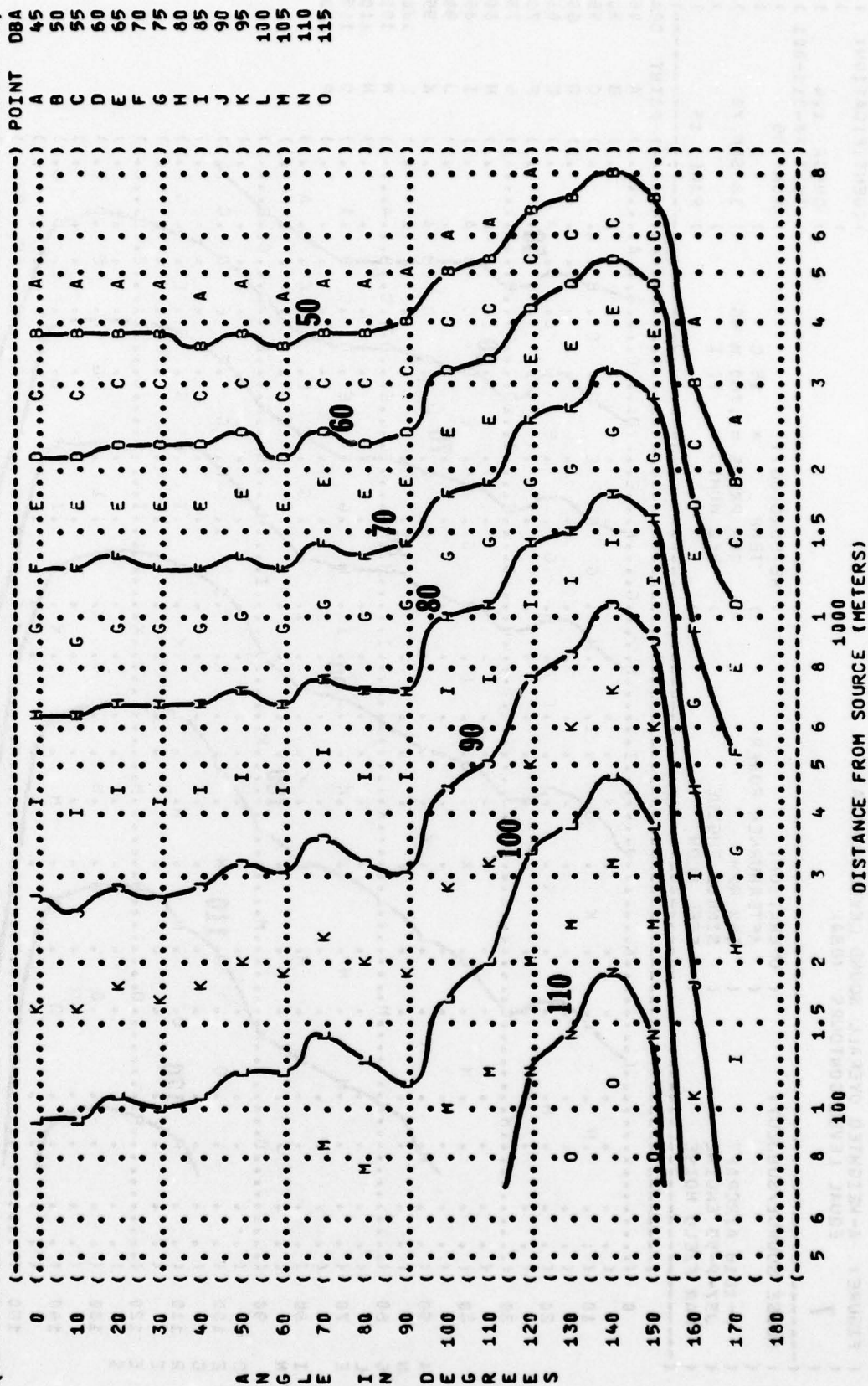
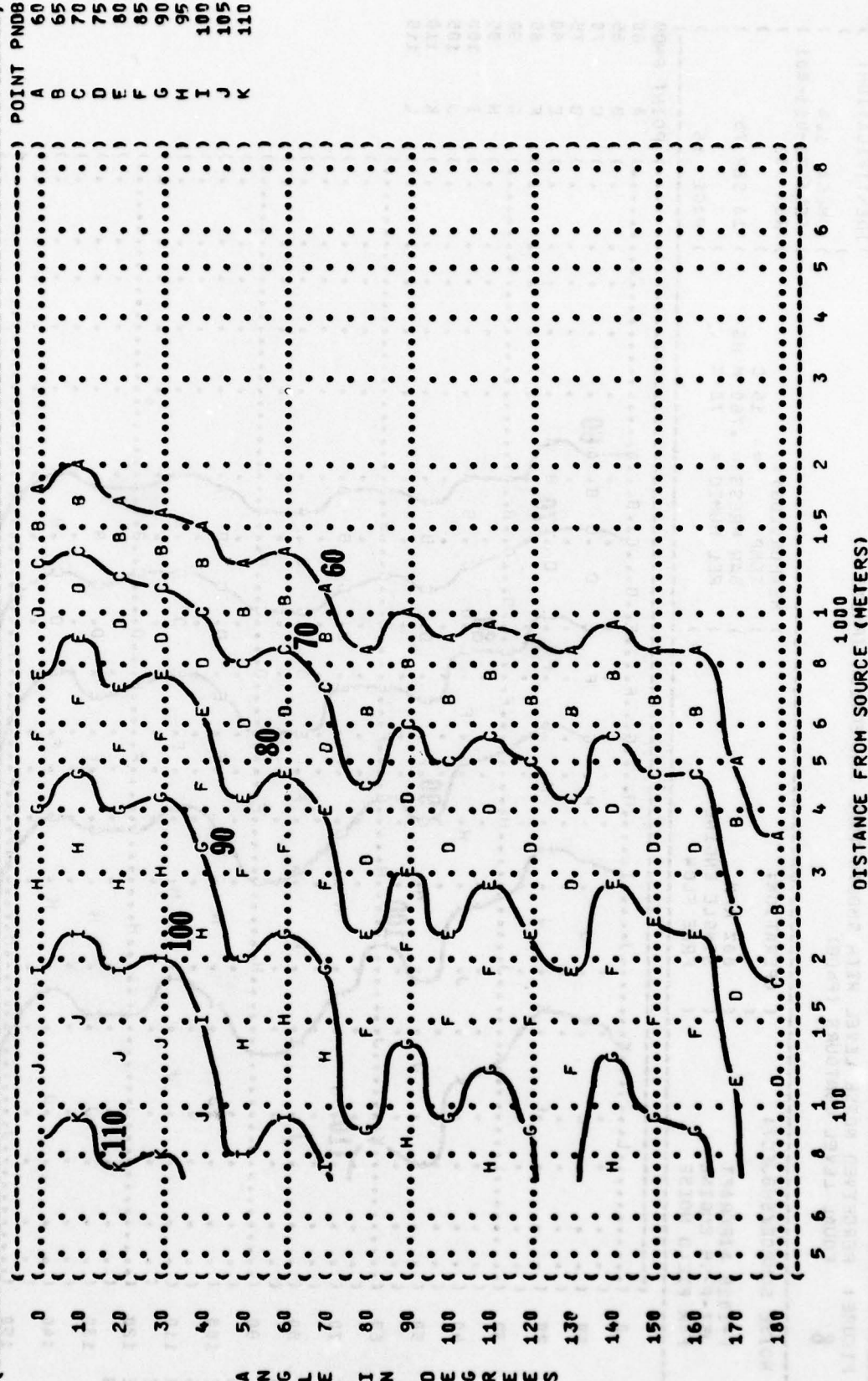
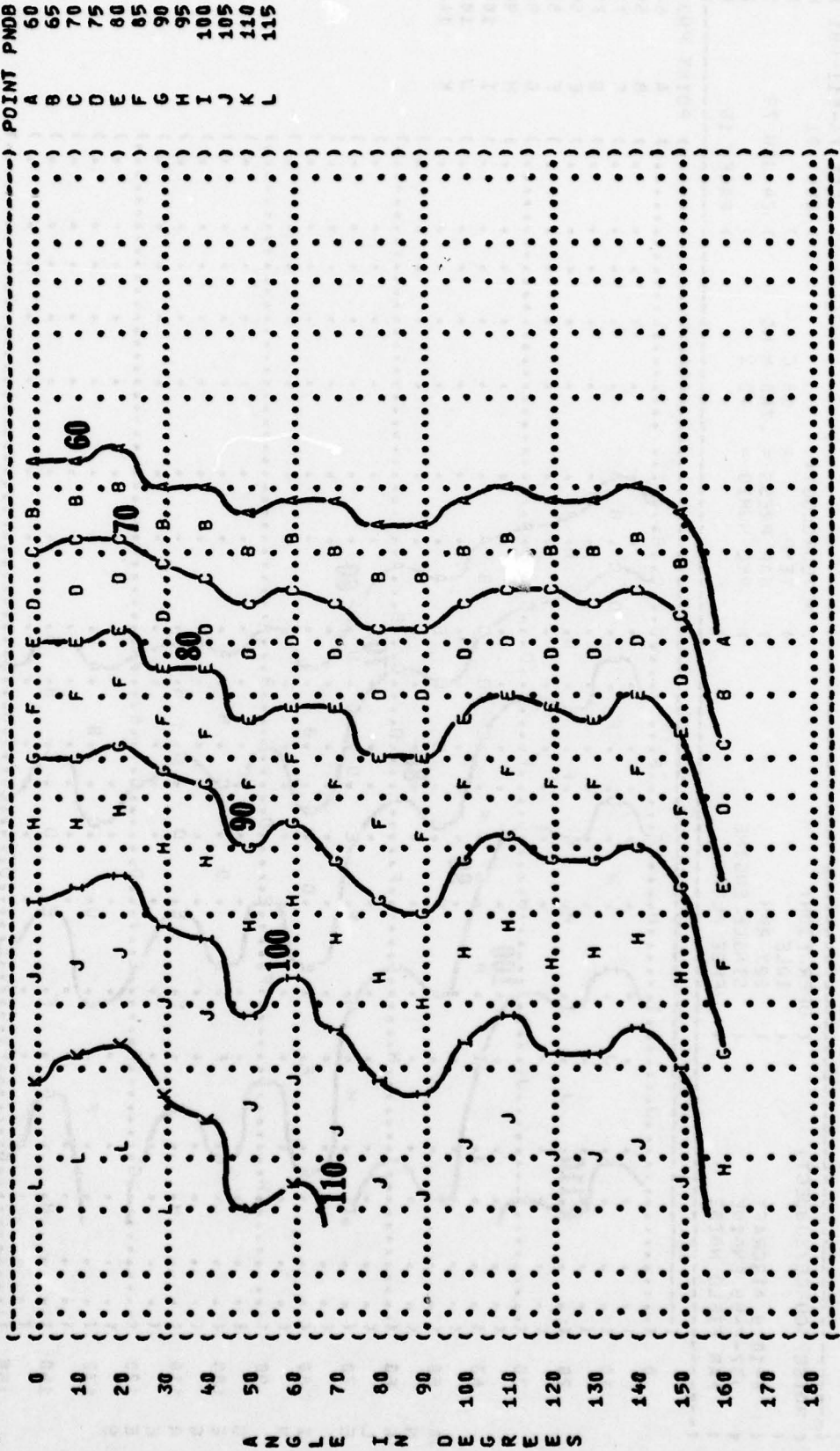


FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
 8
 IDENTIFICATION:
 OMEGA 1.4
 TEST 78-011-001
 RUN 01
 METEOROLOGY:
 TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %
 24 JAN 79
 PAGE 16



((FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)))
 ((8 EQUAL LEVEL CONTOURS (PNDB)))
 ((NOISE SOURCE/SUBJECT: (OPERATION:))
 ((F-101B AIRCRAFT (80% RPM))
 ((J57-P-55 ENGINE (SINGLE ENGINE))
 ((FAR FIELD NOISE (FREE FLOW))
 ((METEOROLOGY:))
 ((TEMP = 15 C))
 ((BAR PRESS = .760 M HG))
 ((REL HUMID = 70 %))
 ((IDENTIFICATION:))
 ((OMEGA 1.4))
 ((TEST 78-011-001))
 ((RUN 02))
 ((18 SEP 78))
 ((PAGE 16))

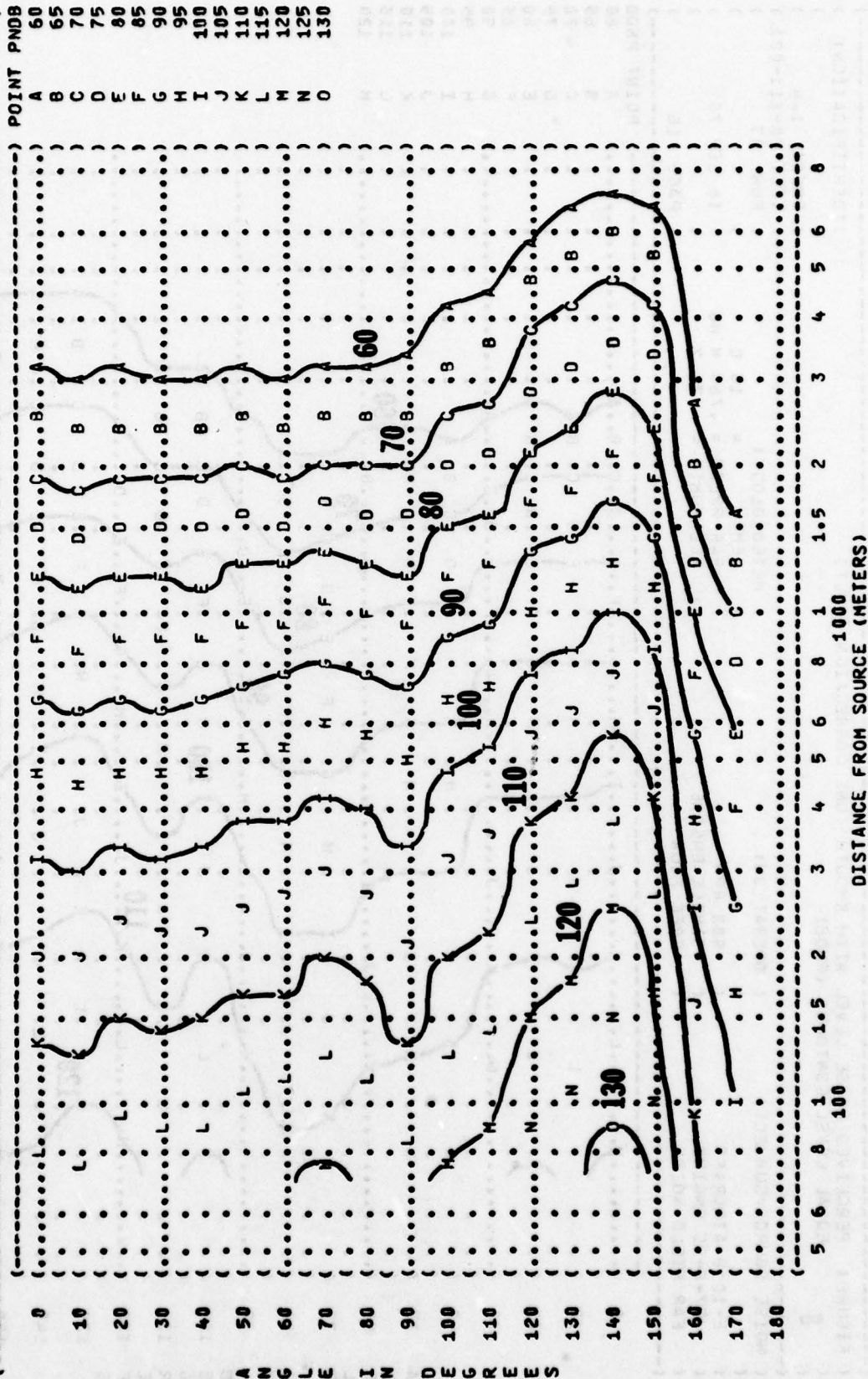


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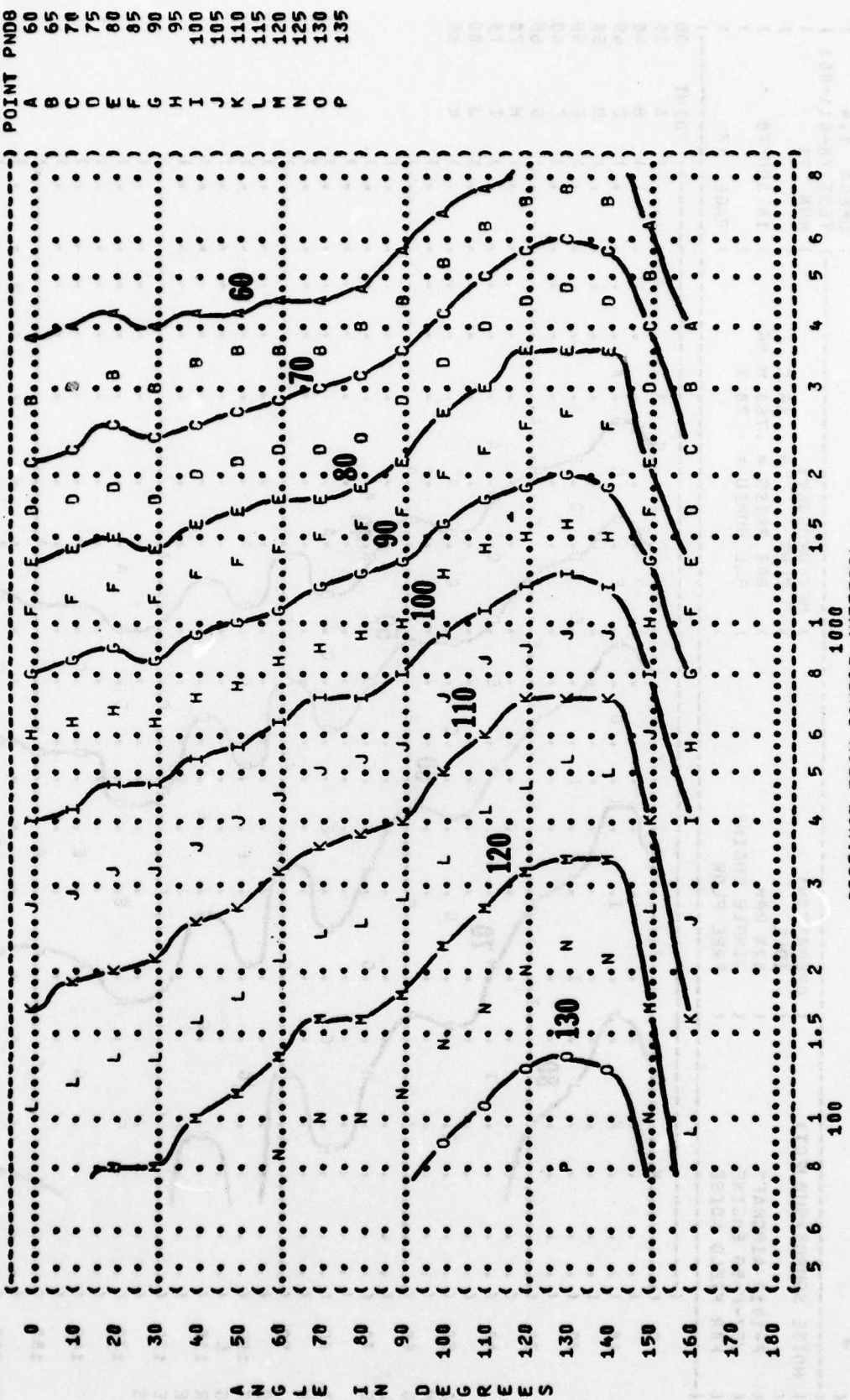

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(-----)
( ( FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) ) IDENTIFICATION: )
( ( 8 ) )
( ( EQUAL LEVEL CONTOURS (PNDB) ) )
(-----)
( ( NOISE SOURCE/SUBJECT: ) OPERATION: ) METEOROLOGY: )
( ( ) ) )
( ( F-101B AIRCRAFT ) MILITARY POWER ) ) TEMP = 15 C )
( ( ) ) ) ) BAR PRESS = .760 M HG )
( ( J57-P-55 ENGINE ) 95.5% RPM ) ) ) 18 SEP 78 )
( ( ) ) ) ) SINGLE ENGINE ) ) ) )
( ( FAR FIELD NOISE ) FREE FLOW ) ) ) ) PAGE 16 )
(-----)

```



(FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT))
 (8)
 (NOISE SOURCE/SUBJECT:)
 (F-101B AIRCRAFT)
 (J57-P-55 ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (AFTERBURNER POWER)
 (96% RPM)
 (SINGLE ENGINE)
 (FREE FLOW)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 78-011-001)
 (RUN 05)
 (24 JAN 79)
 (PAGE 15)



) IDENTIFICATION:)
))

OMEGA 1.4

METEOROLOGY:

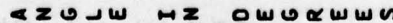
TEMP = 15 C

18 SEP 78

REL HUMID = 70 %

PAGE 17

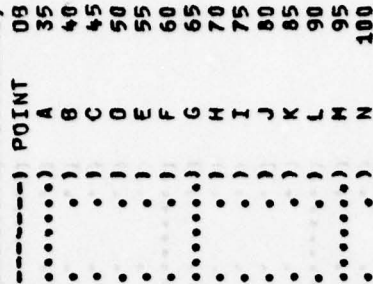
INT 08



IDENTIFICATION:
OMEGA 1.4
TEST 78-011-001
RUN 03
24 JAN 79
PAGE 17

)) RUN 03)
)))
)) 24 JAN 79)
)))
)) PAGE 17)

24 JAN 79
PAGE 17



PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

OMEGA 1.4
TEST 78-91

TEOROLOGY:
TEMP = 15 C HG
BAR PRESS = .769 M HG
REL HUMID = 70 %

PAGE 17



1000
DISTANCE FROM SOURCE (METERS)

IDENTIFICATION:)

1

0 METEOROLOGY:

RUN 05

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

PAGE 17

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110
Q	115

ANGLE IN DEGREES

64

((FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
((EQUAL TIME CONTOURS (MINUTES)
((**10**
((NO PROTECTION
((-----
((NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:) IDENTIFICATION:)
(((IDLE) TEMP = 15 C))
((F-101B AIRCRAFT (62% RPM) BAR PRESS = .760 M HG) 18 SEP 78)
((J57-P-55 ENGINE (SINGLE ENGINE) REL HUMID = 70 %))
((FAR FIELD NOISE (FREE FLOW)) PAGE 7)
((-----

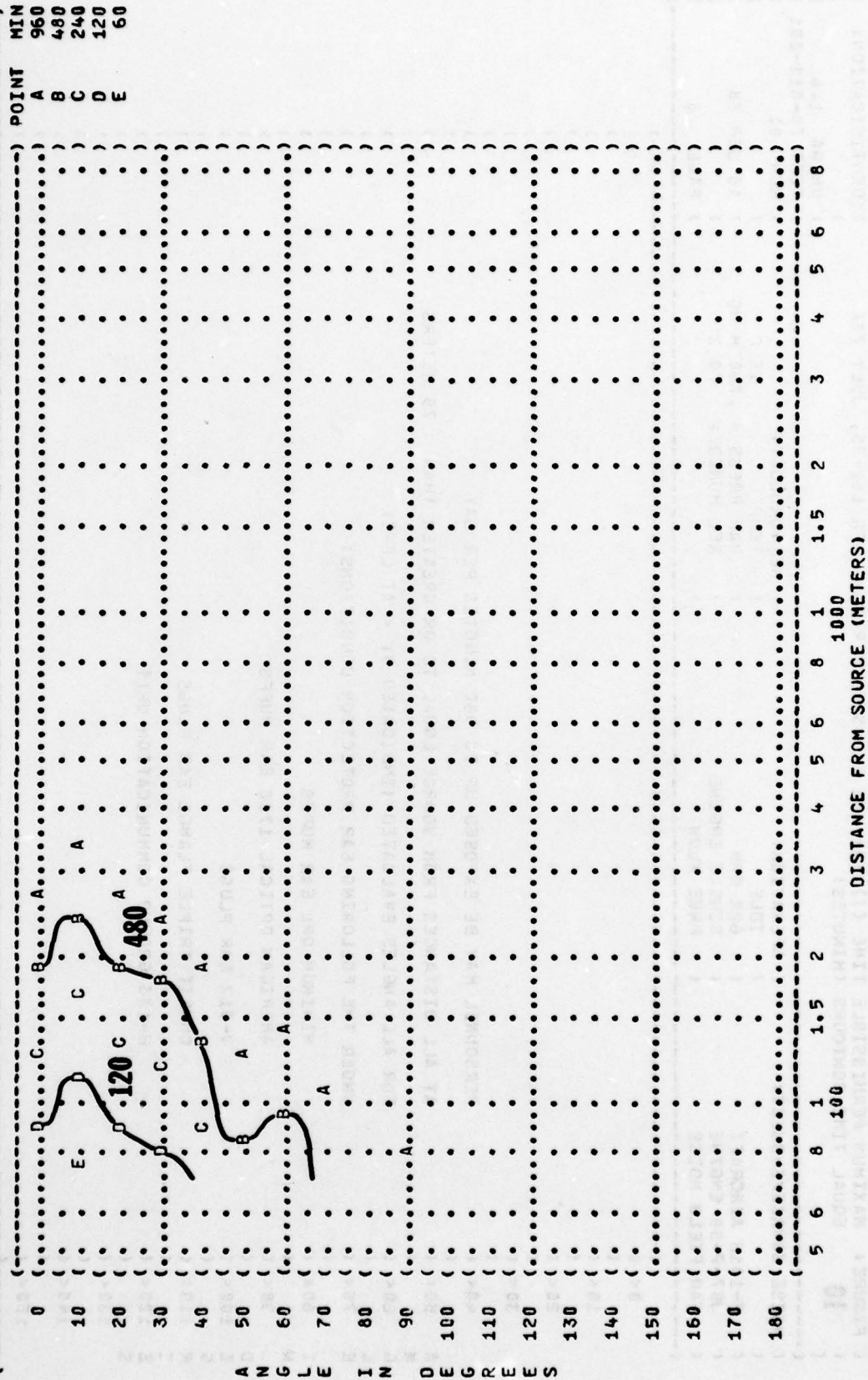


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION:

10

NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY:

F-101B AIRCRAFT IDLE TEMP = 15 C

J57-P-55 ENGINE 62% RPM BAR PRESS = .760 M HG

FAR FIELD NOISE SINGLE ENGINE REL HUMID = 70 %

FREE FLOW

OMEGA 1.4

TEST 78-011-001

RUN 01

18 SEP 78

PAGE 8

0<

10<

20<

30<

40<

50<

60<

70<

80<

90<

100<

110<

120<

130<

140<

150<

160<

170<

180<

ANGLERIES

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY

AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS

FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)

UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

MINIMUM QPL EAR MUFFS

AMERICAN OPTICAL 1700 EAR MUFFS

V-51R EAR PLUGS

COMFIT TRIPLE FLANGE EAR PLUGS

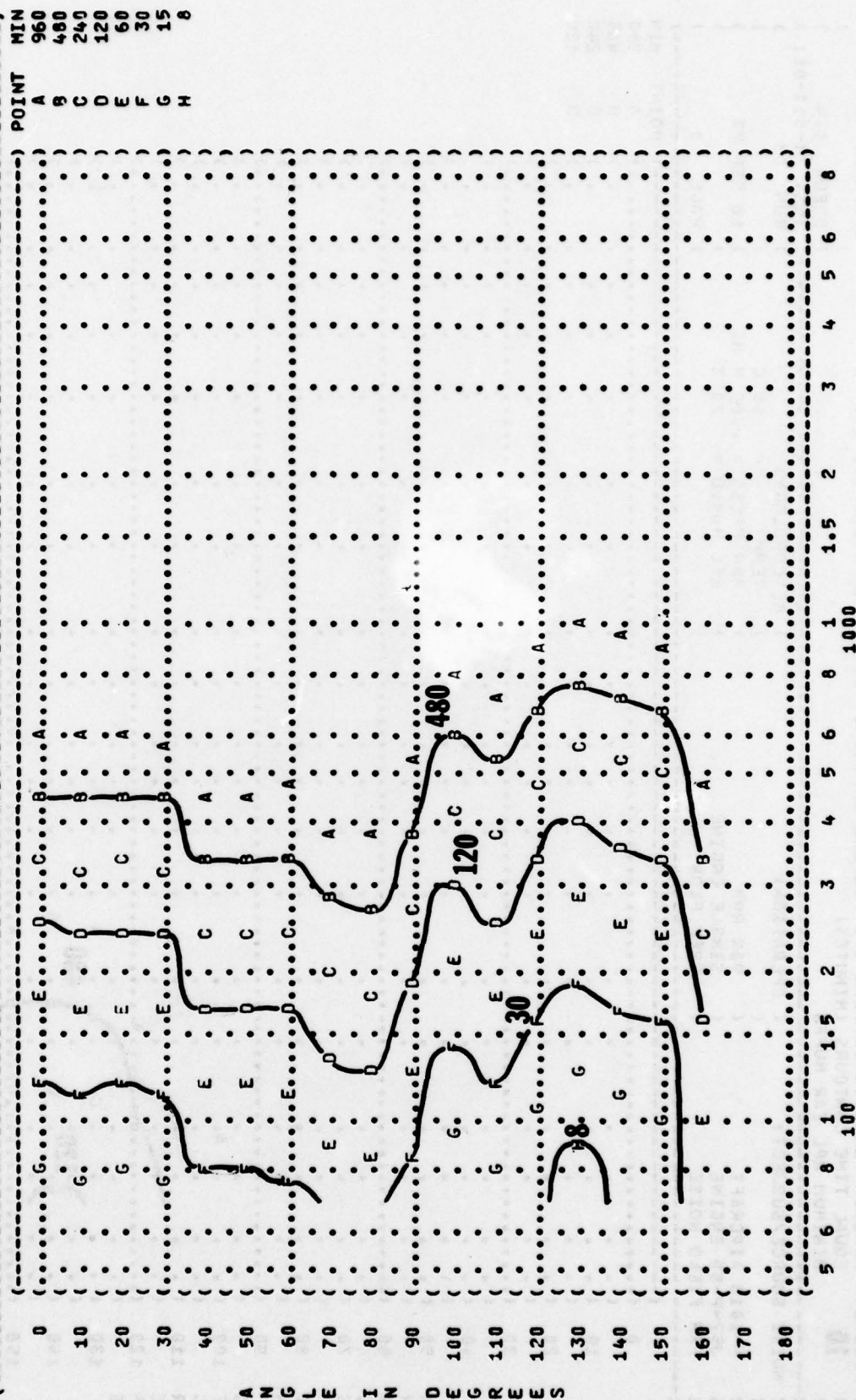
H-133 GROUND COMMUNICATION UNIT

5 6 8 1 1.5 2 3 4 5 6 8

100 1000

DISTANCE FROM SOURCE (METERS)

(FIGURE: MAXIMUM PERMISSIBLE TIME {T} FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
)
) EQUAL TIME CONTOURS (MINUTES)
)
) NO PROTECTION
)
)
)
)
) NOISE SOURCE/SUBJECT: (OPERATION:
)
) F-101B AIRCRAFT (90% RPM) TEMP = 15 C
) J57-P-55 ENGINE (SINGLE ENGINE) BAR PRESS = .760 M HG
) FAR FIELD NOISE (FREE FLOW) REL HUMID = 70 %
)
) IDENTIFICATION:
)
) OMEGA 1.4
) TEST 78-011-001
) RUN 03
)
)
)
)
)
) PAGE 7



DISTANCE FROM SOURCE (METERS)

FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION:

10 EQUAL TIME CONTOURS (MINUTES)

MINIMUM QPL EAR MUFFS

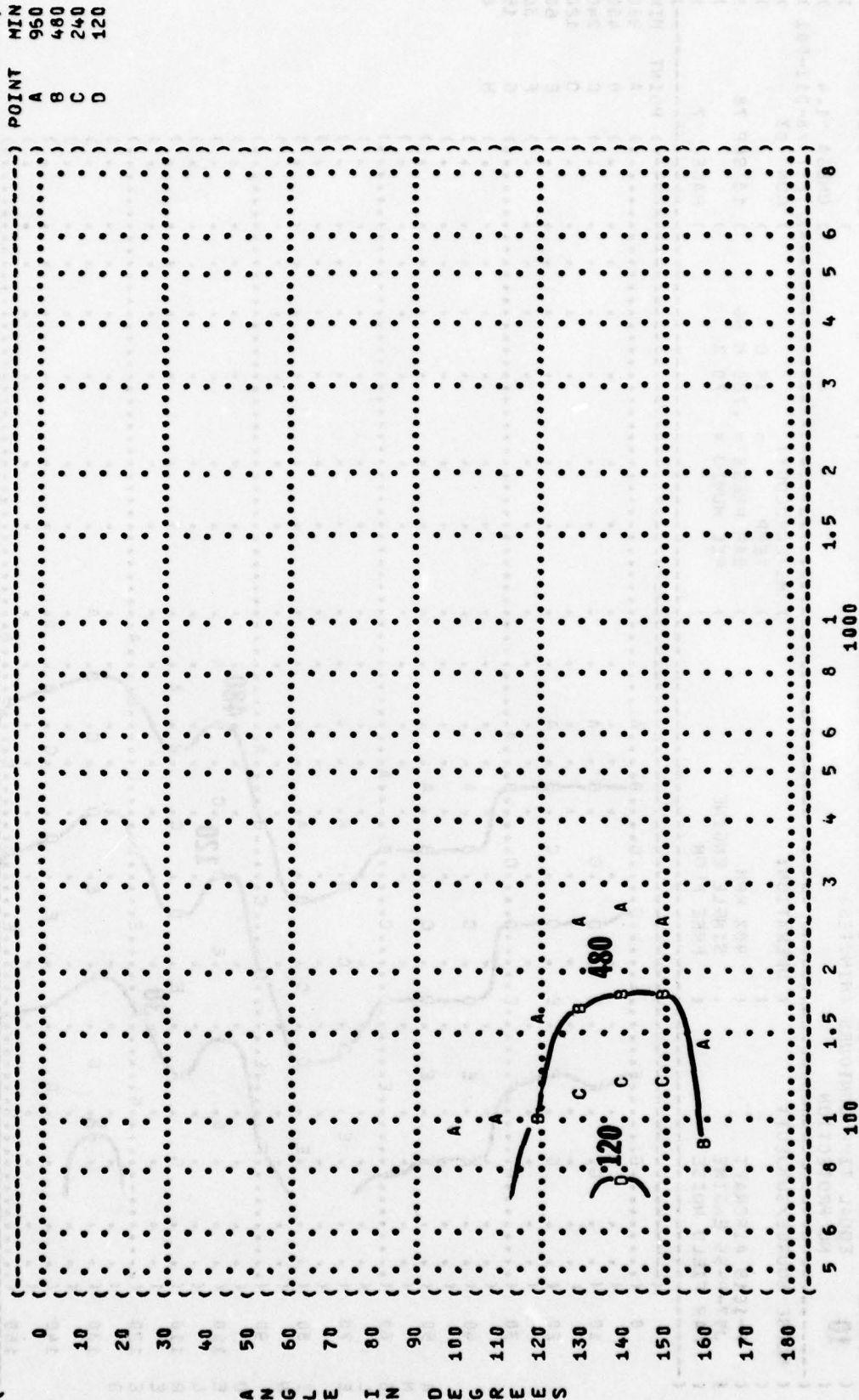
NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY: OMEGA 1.4

F-101B AIRCRAFT 90% RPM 15 C TEST 78-011-001

J57-P-55 ENGINE SINGLE ENGINE BAR PRESS = .760 M HG RUN 03

FAR FIELD NOISE FREE FLOW REL HUMID = 70 % 18 SEP 78

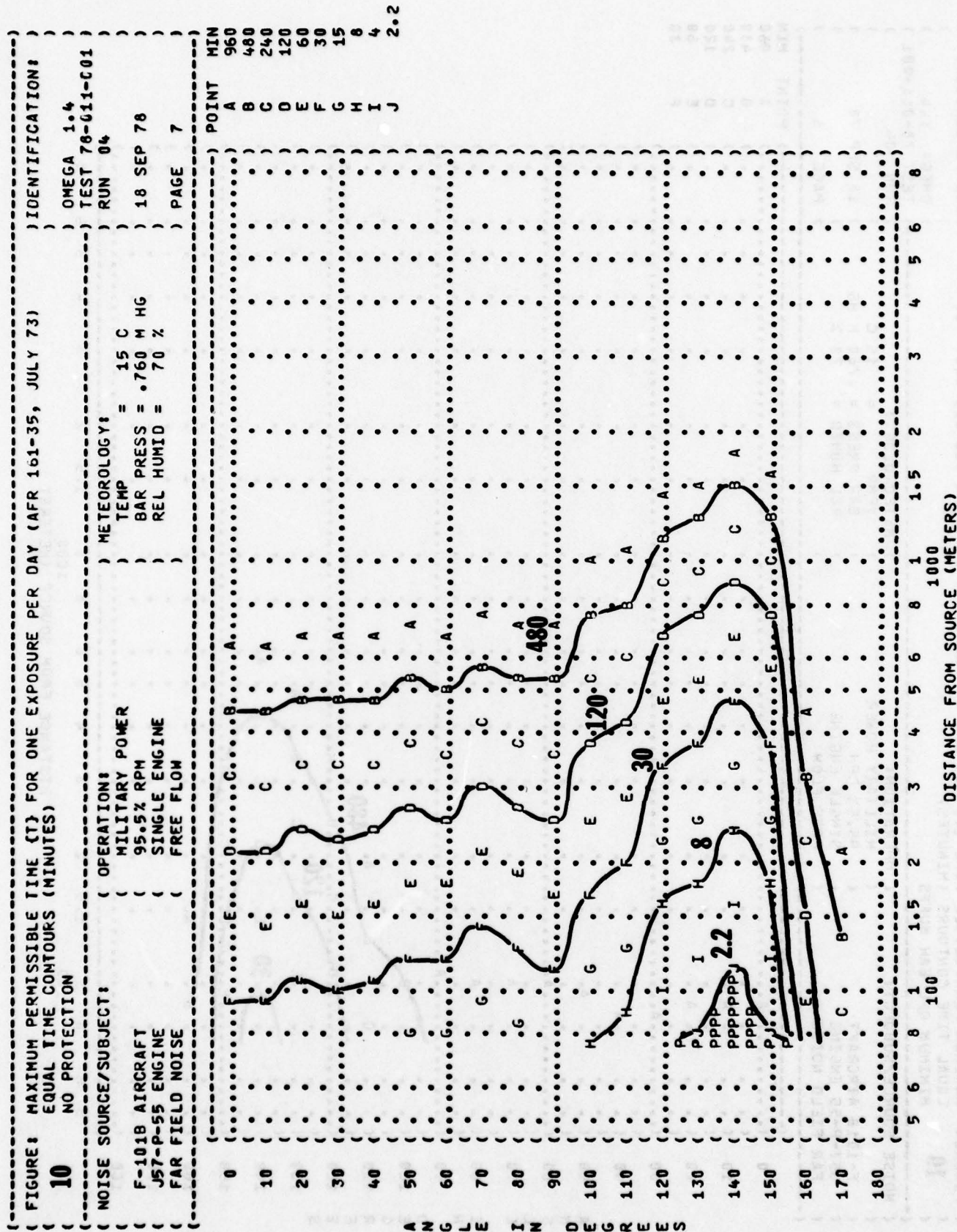
PAGE 8



	MIN	POINT
0	960	A
	480	B

5 6 8 1 1.5 2 3 4 5 6 8
100 1000
DISTANCE FROM SOURCE (METERS)

72



[illegible]

76

FIGURE:	MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)	IDENTIFICATION:
10	EQUAL TIME CONTOURS (MINUTES)	
	AMERICAN OPTICAL 1700 EAR MUFFS	OMEGA 1.4
		TEST 78-011-001
NOISE SOURCE/SUBJECT:	OPERATION:	RUN 04
	MILITARY POWER	
F-101B AIRCRAFT	95.5% RPM	TEMP = 15 C
J57-P-55 ENGINE	SINGLE ENGINE	BAR PRESS = .760 M HG
FAR FIELD NOISE	FREE FLOW	REL HUMID = 70 %
		PAGE 9

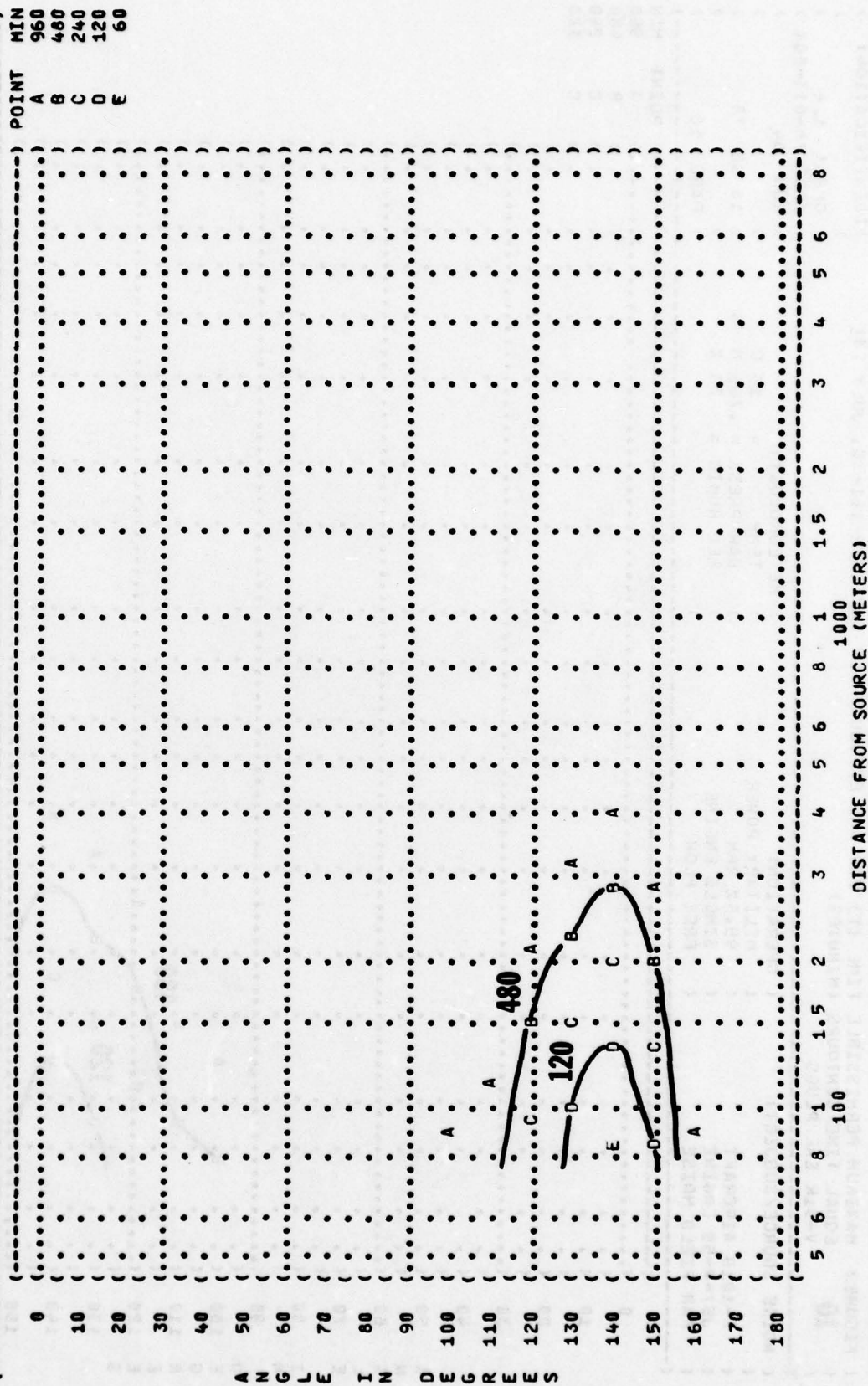
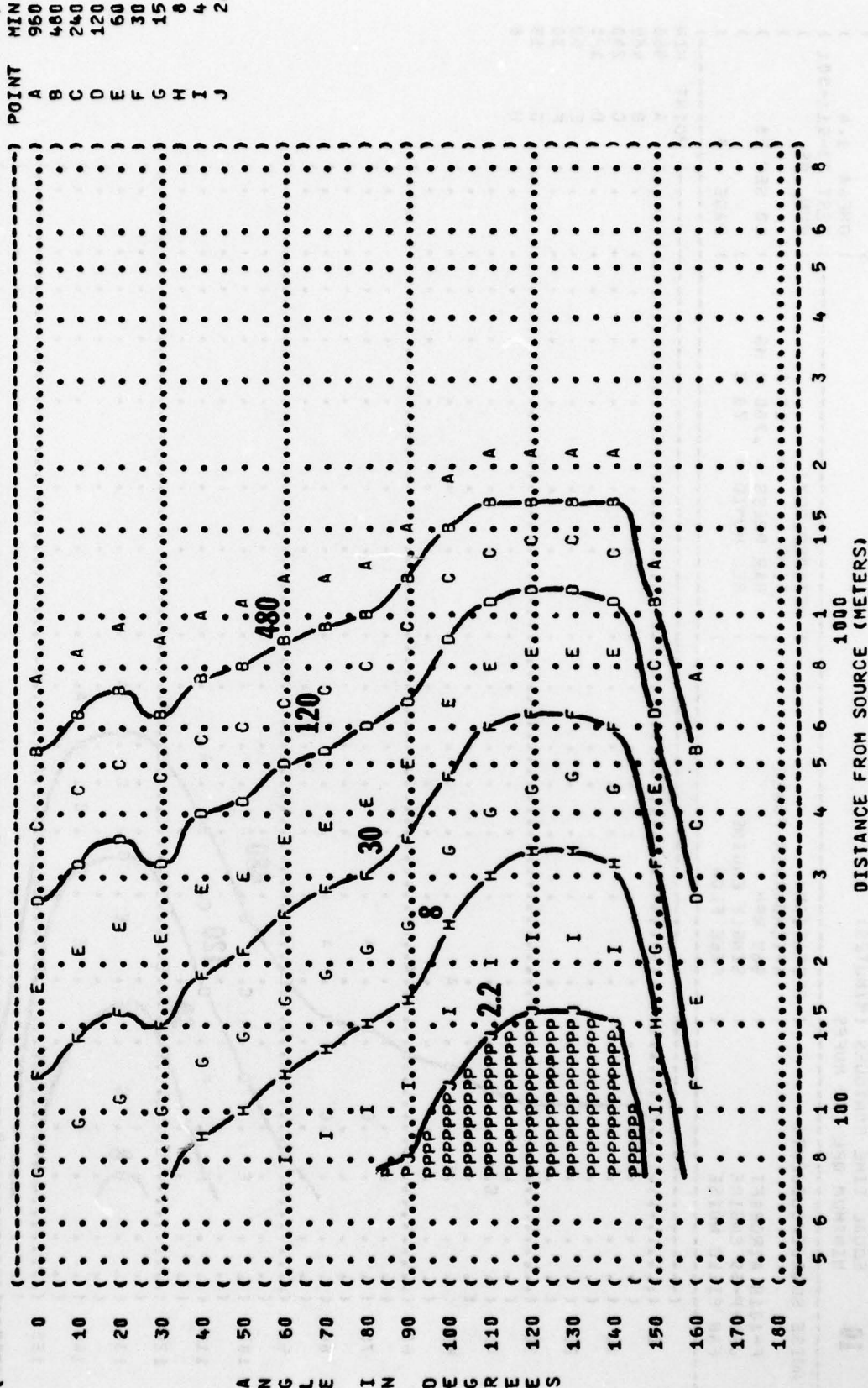


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) IDENTIFICATION:)
 10 EQUAL TIME CONTOURS (MINUTES))
 NO PROTECTION)
 NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:)
 (AFTERBURNER POWER) TEMP = 15 C)
 (96% RPM) BAR PRESS = .760 M HG)
 (SINGLE ENGINE) REL HUMID = 70 %)
 (FREE FLOW))
 F-101B AIRCRAFT)
 J57-P-55 ENGINE) 24 JAN 79)
 FAR FIELD NOISE) PAGE 7)



P ADDITIONAL EAR PROTECTION REQUIRED.

FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION:

10 MINIMUM QPL EAR MUFFS

NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY: TEMP = 15 C

F-101B AIRCRAFT AFTERBURNER POWER BAR PRESS = .760 M HG

J57-P-55 ENGINE SINGLE ENGINE REL HUMID = 70 %

FAR FIELD NOISE FREE FLOW

OMEGA 1.4

TEST 78-011-001

RUN 05

18 SEP 78

PAGE 8

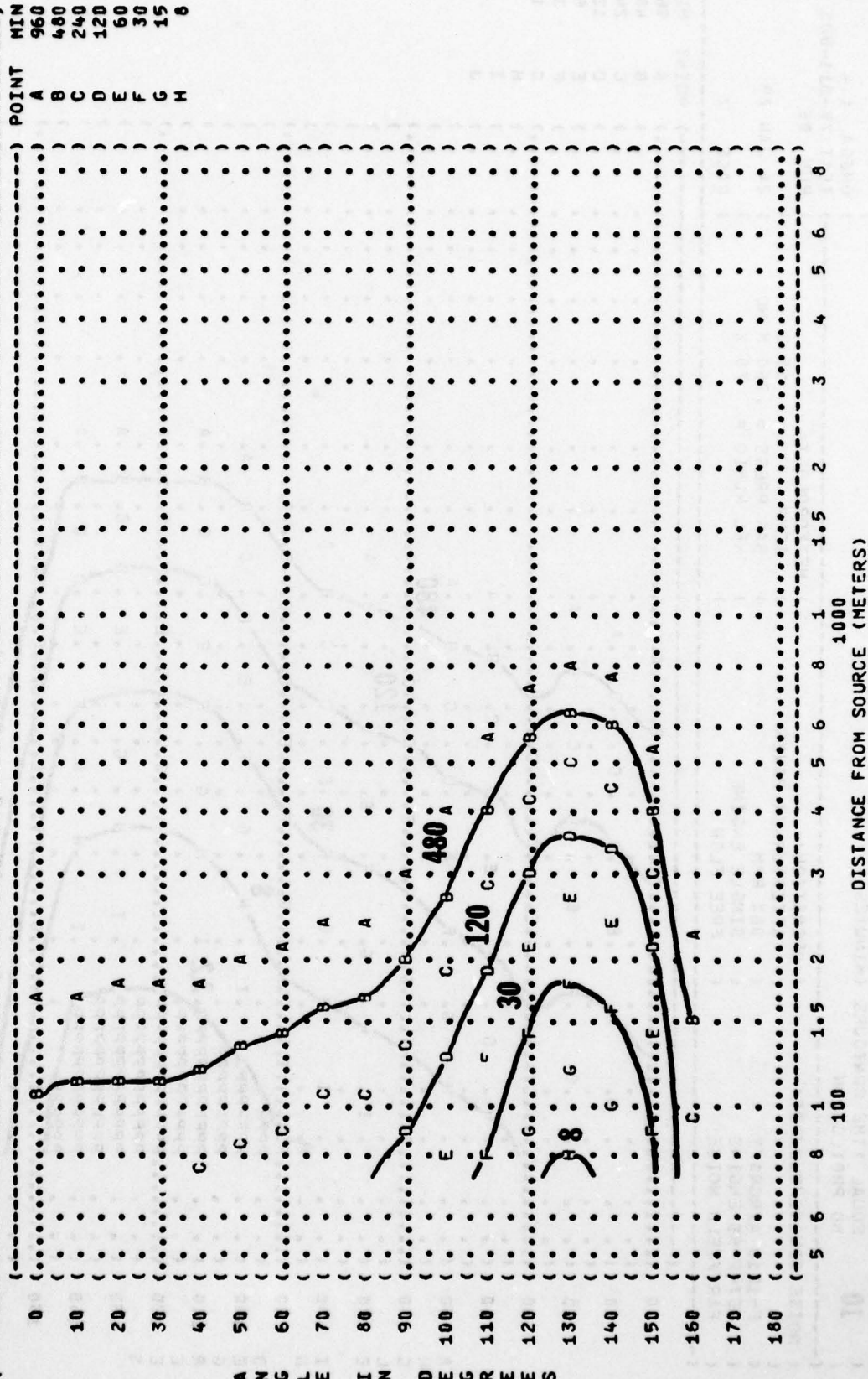


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

10 EQUAL TIME CONTOURS (MINUTES)

AFRICAN OPTICAL 1700 FAR MUFFS

NOISE SOURCE/SUBJECT: () OPERATION: () METEOROLOGY: ()

() AFTERBURNER POWER () TEMP = 15 C

() 96% RPM () BAP PRESS = .760 M HG

() SINGLE ENGINE () REL HUMID = 70 %

() FREE FLOW ()

F-101B AIRCRAFT

J57-P-55 ENGINE

FAR FIELD NOISE

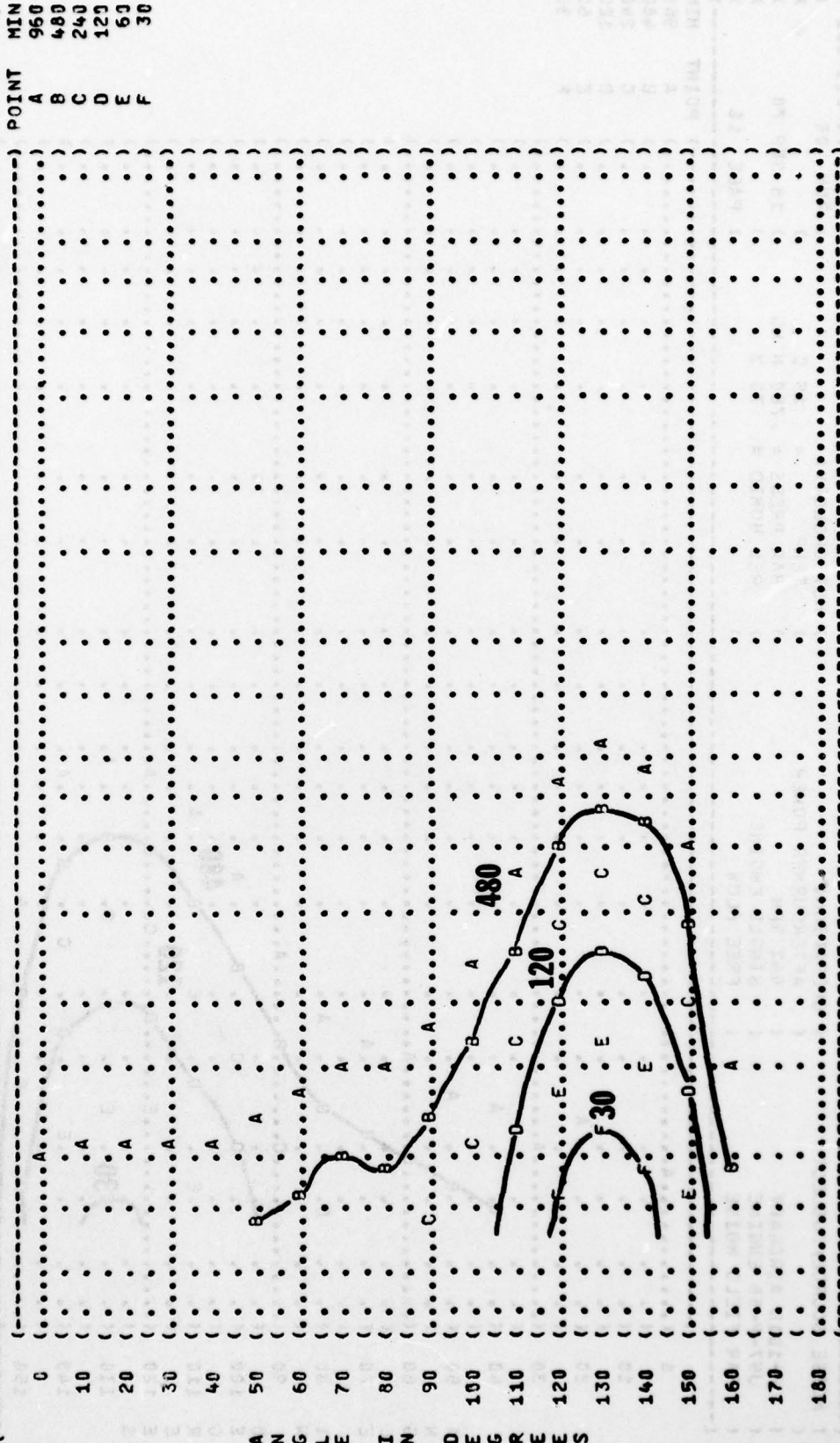
OMEGA 1.4

TEST 78-011-001

RUN 05

18 SEP 78

PAGE 9



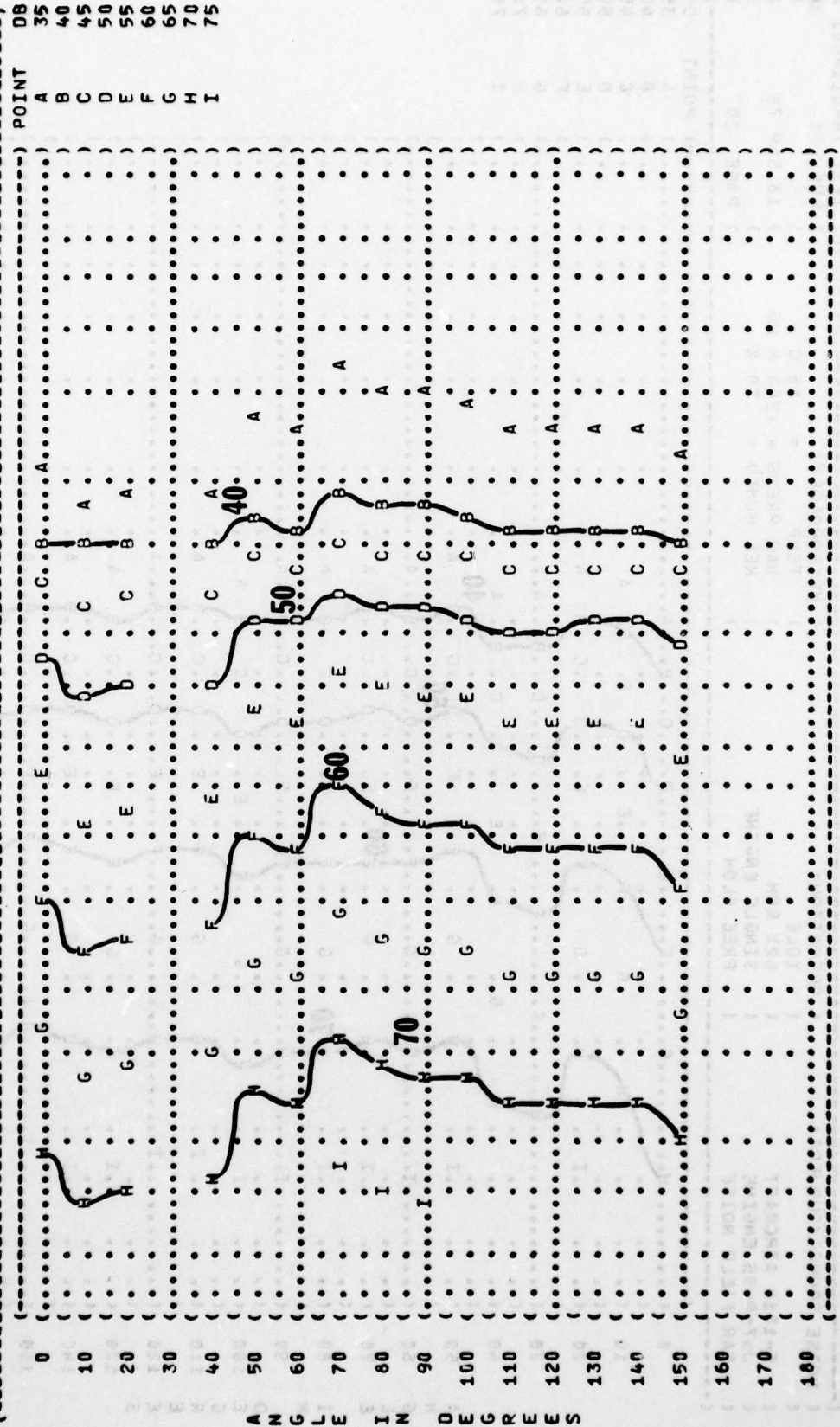
DISTANCE FROM SOURCE (METERS)

CLASSIFICATION 1.4



	MIN	POINT
0	A 960	.)
	B 480	.)
10	C 240	.)
	D 120	.)
20	E 60	.)

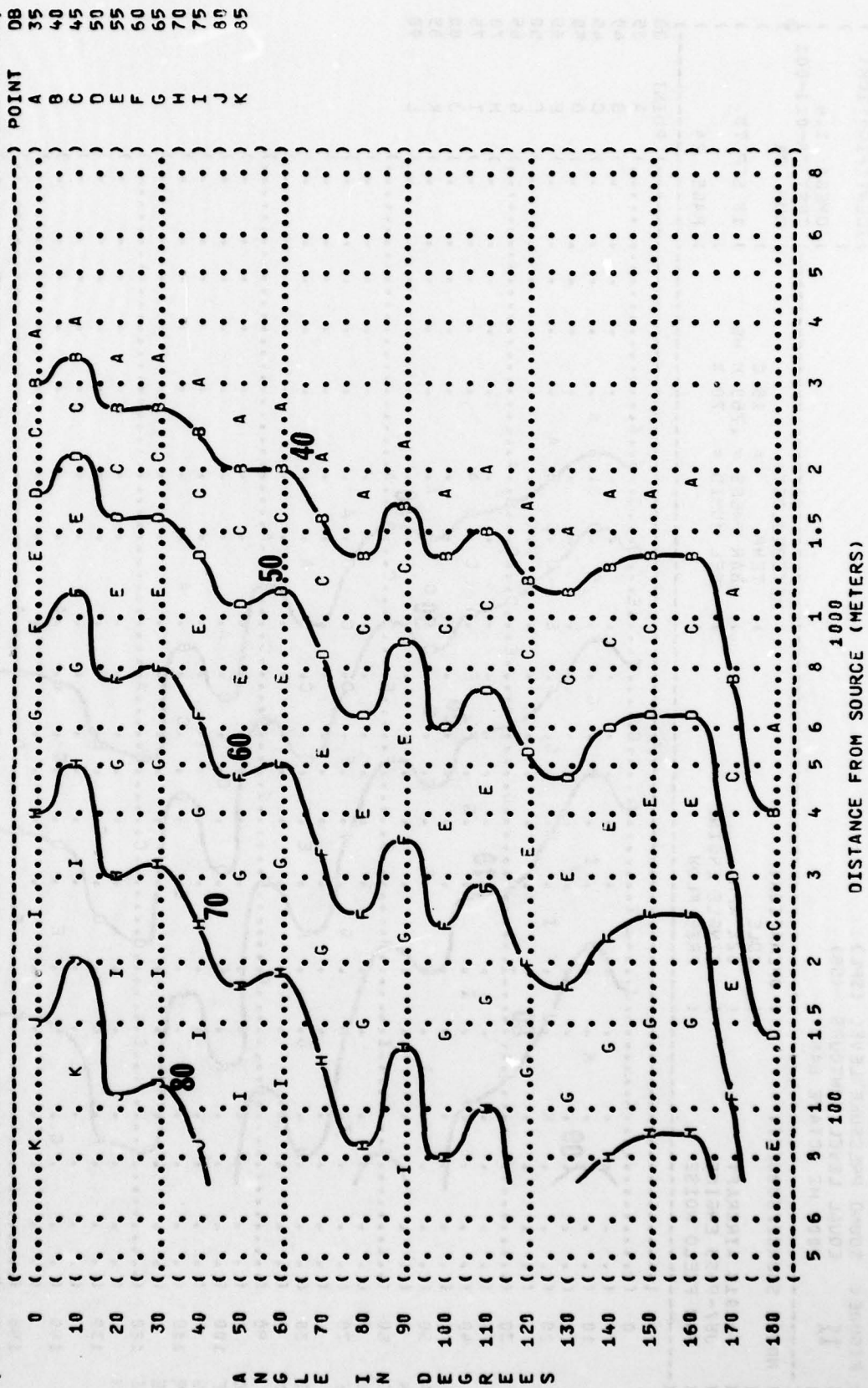
(FIGURE: SOUND PRESSURE LEVEL (SPL)) IDENTIFICATION:)
 (11 EQUAL LEVEL CONTOURS (DB)))
 (31.5 HZ OCTAVE BAND))
 (NOISE SOURCE/SUBJECT:))
 (F-1018 AIRCRAFT))
 (J57-P-55 ENGINE))
 (FAR FIELD NOISE))
 (OPERATION:))
 (IDLE))
 (62% RPM))
 (SINGLE ENGINE))
 (FREE FLOW))
 (METEOROLOGY:))
 (TEMP = 15 C))
 (BAR PRESS = .760 M HG))
 (REL HUMID = 70 %))
 (TEST 78-011-001))
 (RUN 01))
 (10 SEP 79))
 (PAGE 13))



5 6 8 1 1.5 2 3 4 5 6 8 100 1000
 DISTANCE FROM SOURCE (METERS)

A N G L E I N D E G R E E S

(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (1000 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 ((OPERATION:))
 ((IDLE))
 ((62% RPM))
 ((SINGLE ENGINE))
 ((FREE FLOW))
 (F-1018 AIRCRAFT)
 (J57-P-55 ENGINE)
 (FAR FIELD NOISE)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 78-011-001)
 (RUN 01)
 (18 SEP 78)
 (PAGE 23)



A N G L E I N D E G R E E S

AD-A073 617

AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OH
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 137. F-101B A--ETC(U)
OCT 78 R G POWELL

F/G 1/3

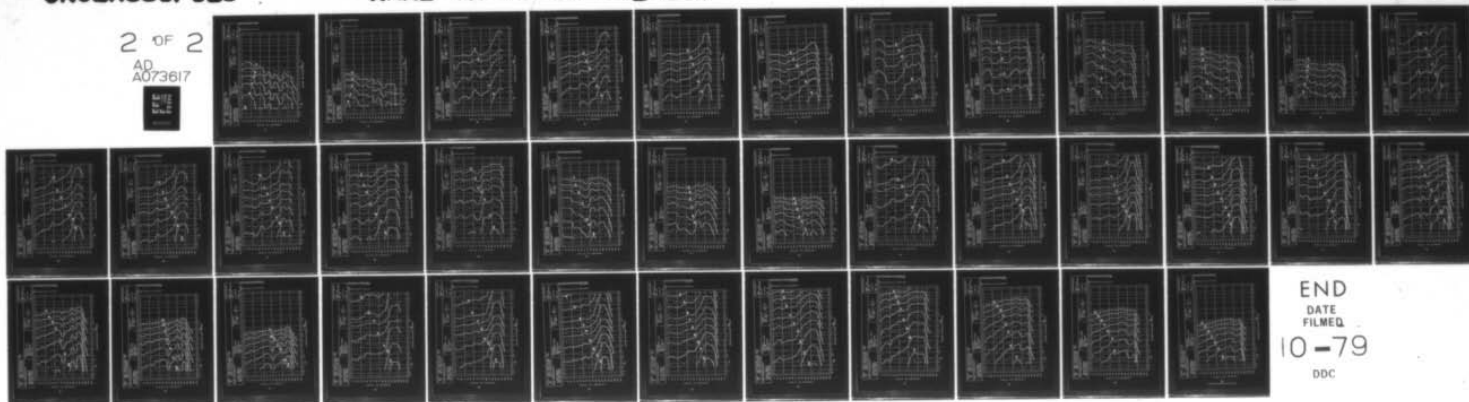
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AMRL-TR-75-50-VOL-137

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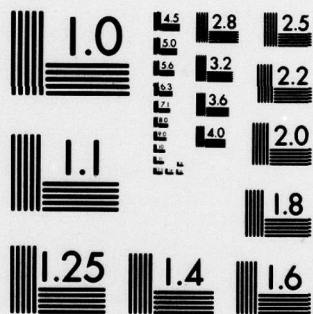
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DATE
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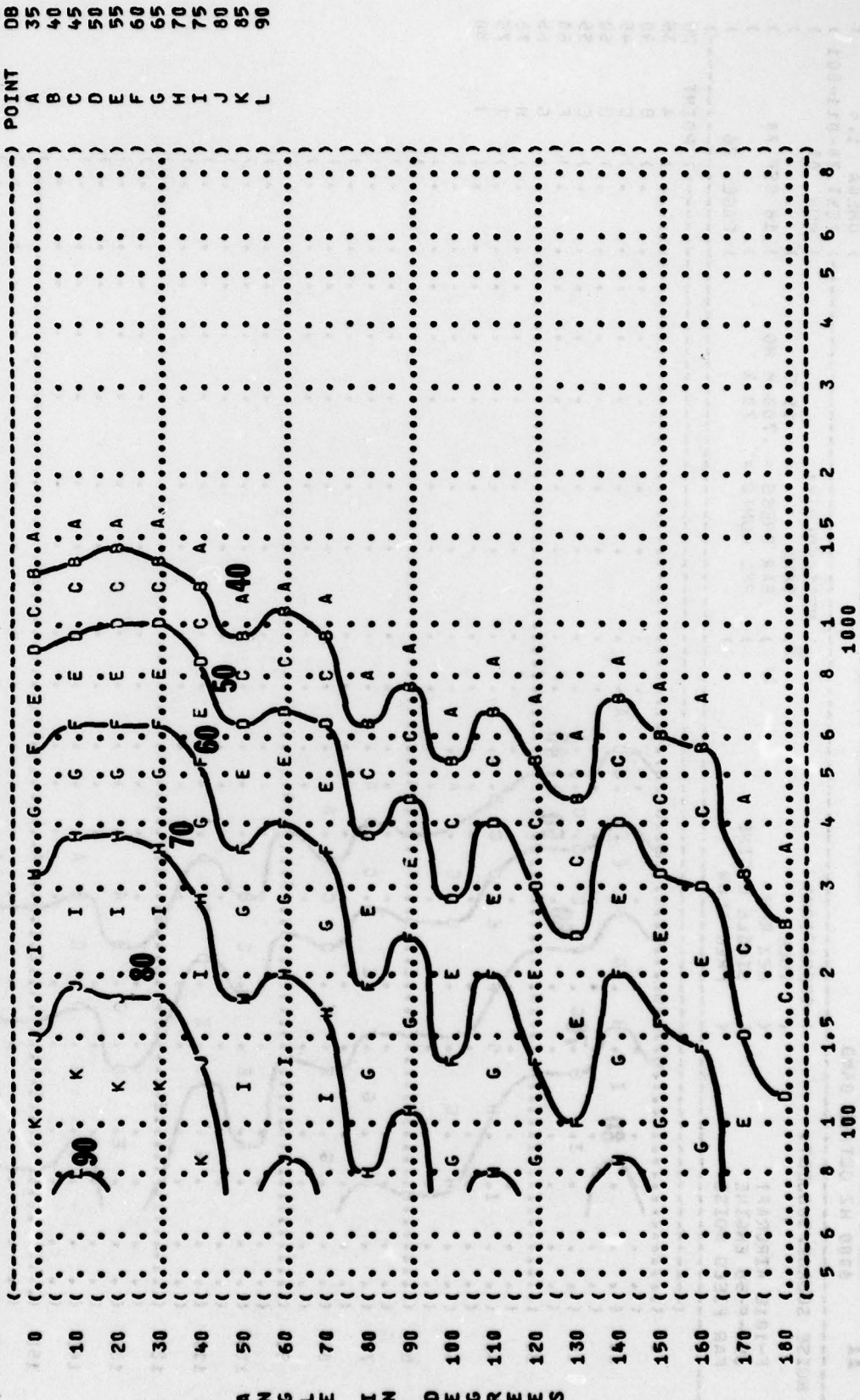
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DDC



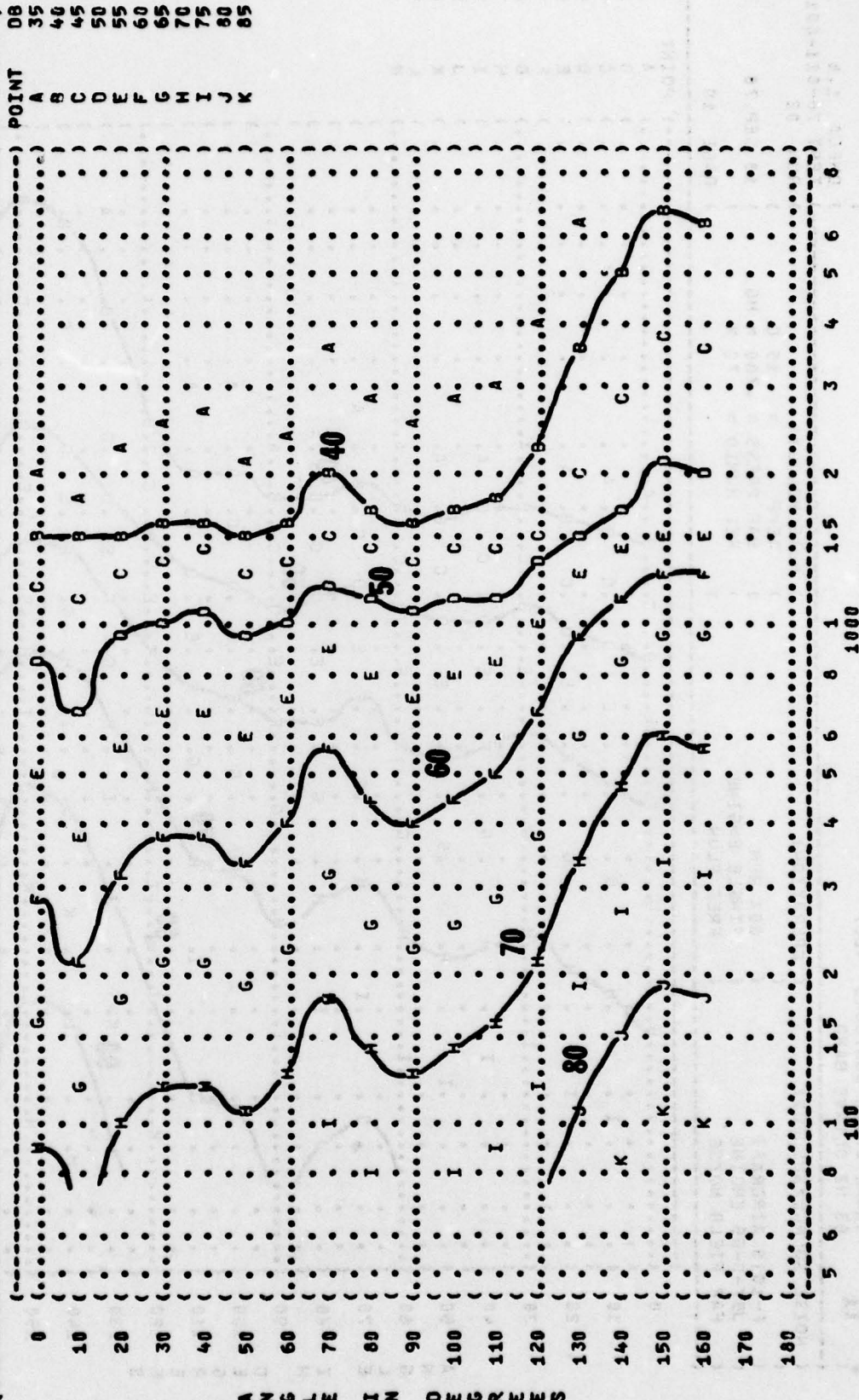
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (4000 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (OPERATION:)
 (F-101B AIRCRAFT)
 (J57-P-55 ENGINE)
 (FAR FIELD NOISE)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 78-011-001)
 (RUN 01)
 (18 SEP 78)
 (PAGE 25)



DISTANCE FROM SOURCE (METERS)

IDENTIFICATION: 11
 SOUND PRESSURE LEVEL (SPL) 31.5 HZ OCTAVE BAND
 EQUAL LEVEL CONTOURS (DB)
 NOISE SOURCE/SUBJECT: F-101B AIRCRAFT
 OPERATION: 80% RPM
 SINGLE ENGINE
 FREE FLOW
 METEOROLOGY: TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %
 DATE: 18 SEP 78
 TEST 78-011-001
 RUN 02
 PAGE 19



```
(-----)
( FIGURE: SOUND PRESSURE LEVEL {SPL} ) IDENTIFICATION: )
( 11 EQUAL LEVEL CONTOURS (DB) ) )
( 63 HZ OCTAVE BAND ) )
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )
( ) TEMP = 15 C )
( F-101B AIRCRAFT ) BAR PRESS = .760 M HG )
( J57-P-55 ENGINE ) SINGLE ENGINE ) 18 SEP 78 )
( FAR FIELD NOISE ) FREE FLOW ) PAGE 19 )
(-----)
```

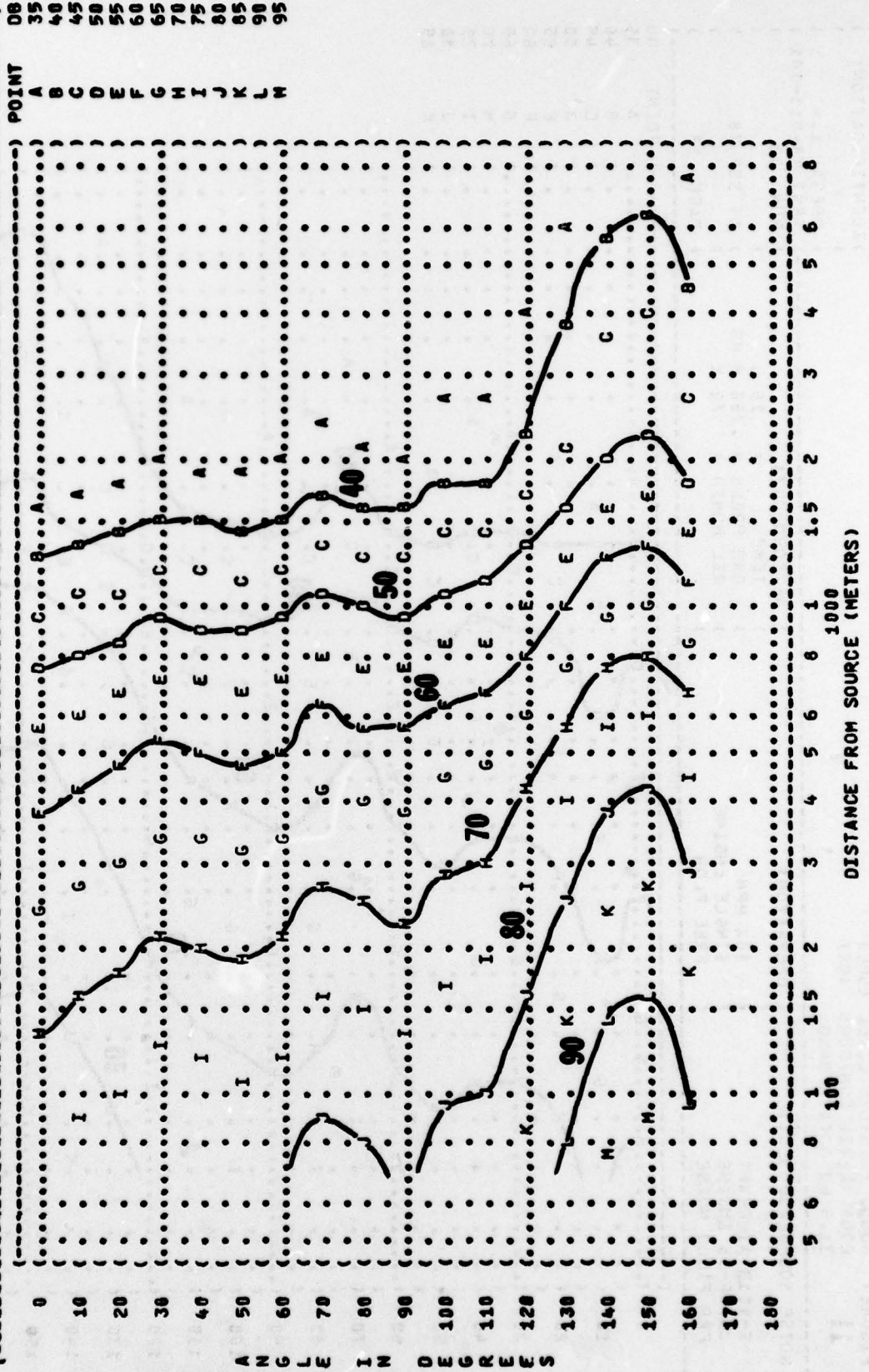


FIGURE 1: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
125 HZ OCTAVE BAND

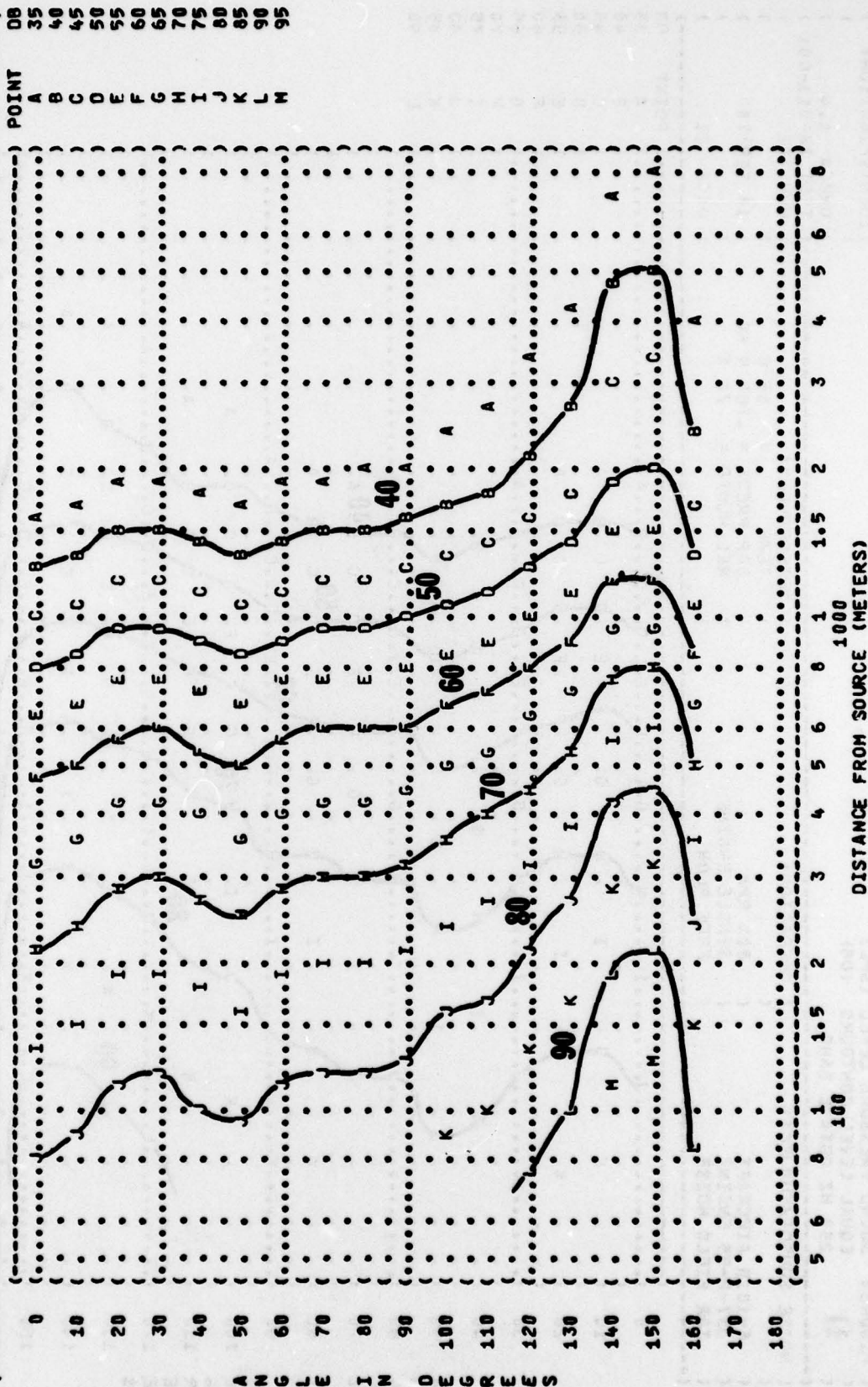
IDENTIFICATION:
OMEGA 1.4
TEST 76-011-001
RUN 02

NOISE SOURCE/SUBJECT:
(F-101B AIRCRAFT)
(J57-P-55 ENGINE)
(FAR FIELD NOISE)

OPERATION:
(80% RPM)
(SINGLE ENGINE)
(FREE FLOW)

METEOROLOGY:
(TEMP = 15 C)
(BAR PRESS = .760 M HG)
(REL HUMID = 70 %)

PAGE 20



IDENTIFICATION?
OMEGA 1.4
TEST 78-011-00
RUN 02

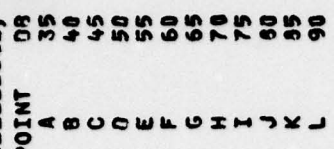
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TEST 78-011-001

METEOROLOGY:

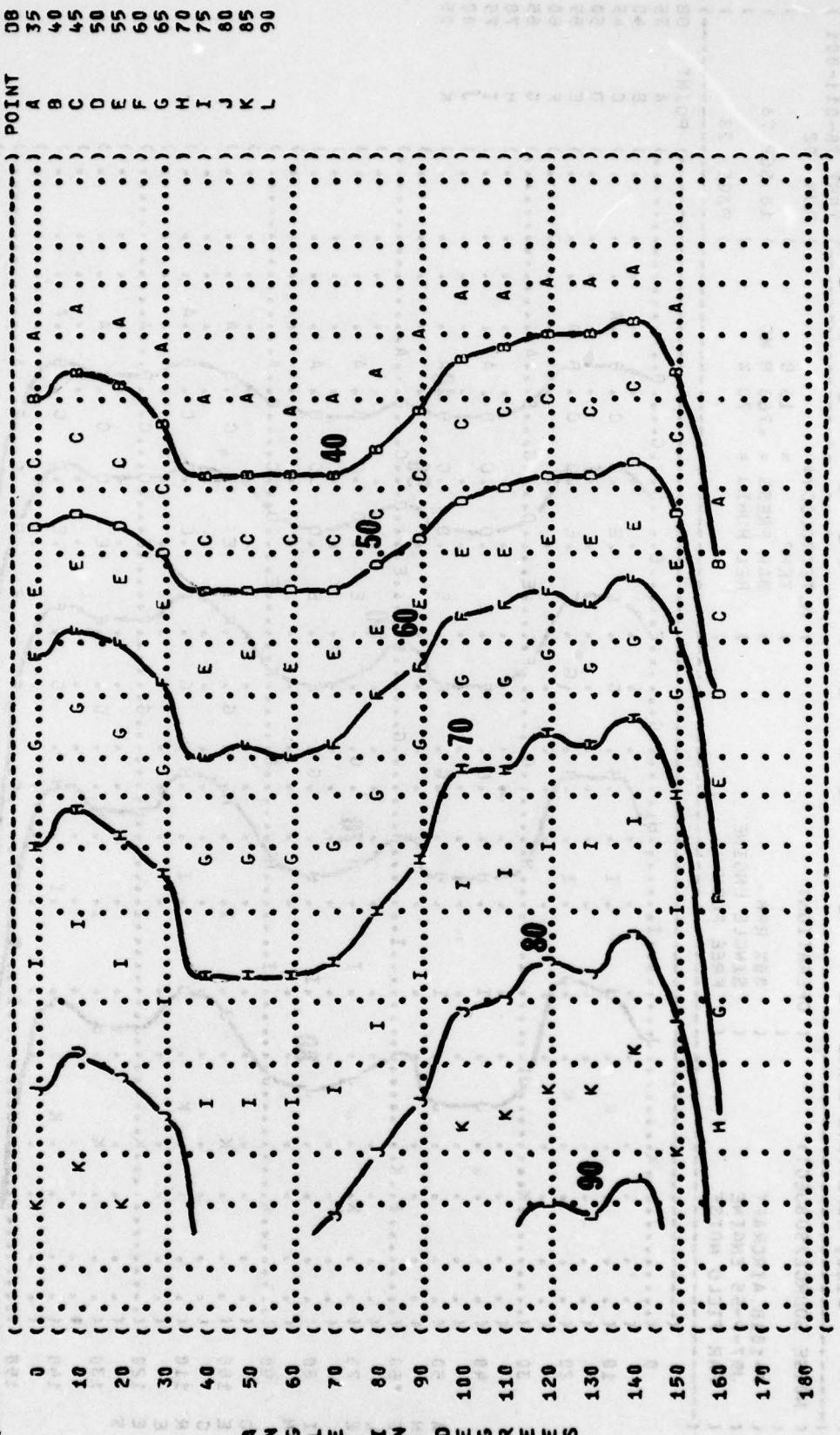
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

18 SEP 78
PAGE 21



1000
DISTANCE FROM SOURCE (METERS)

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (500 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-101B AIRCRAFT (80% RPM
 (J57-P-55 ENGINE (SINGLE ENGINE
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY: (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION: (OMEGA 1.4
 (TEST 78-011-001
 (RUN 02
 (10 SEP 78
 (PAGE 22



DISTANCE FROM SOURCE (METERS)

FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
1000 HZ OCTAVE BAND

11

NOISE SOURCE/SUBJECT:

OPERATION:

METEOROLOGY:

IDENTIFICATION:

OMEGA 1.4

TEST 78-011-001

RUN 02

F-101B AIRCRAFT

80% RPM

TEMP = 15 C

J57-P-55 ENGINE

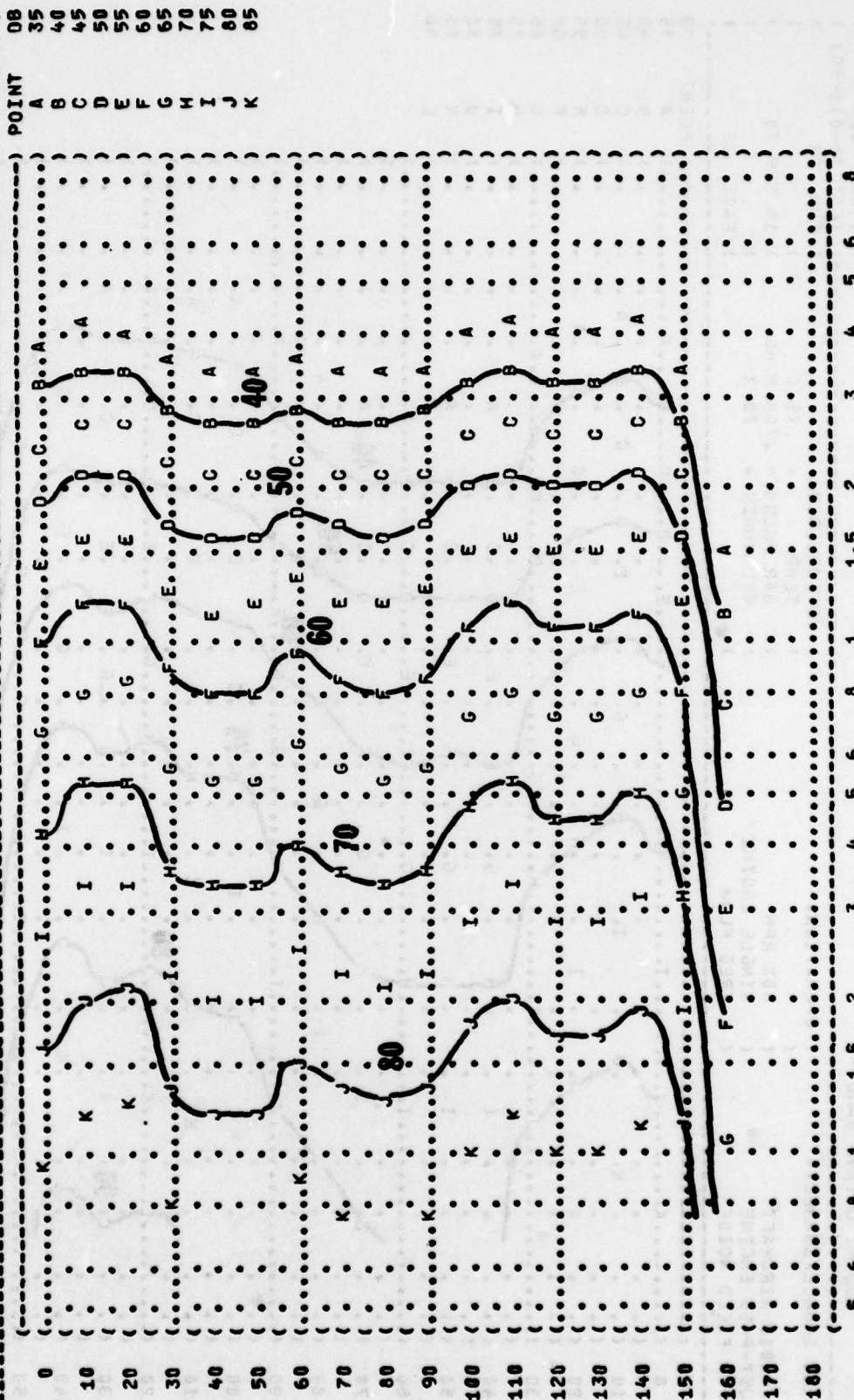
SINGLE ENGINE

BAR PRESS = .760 M HG

FAR FIELD NOISE

FREE FLOW

PAGE 23



DISTANCE FROM SOURCE (METERS)

FIGURE: SOUND PRESSURE LEVEL {SPL}
EQUAL LEVEL CONTOURS (DB)
2000 HZ OCTAVE BAND

11

IDENTIFICATION:
OMEGA 1.4
TEST 78-011-001
RUN 02

NOISE SOURCE/SUBJECT:

OPERATION:

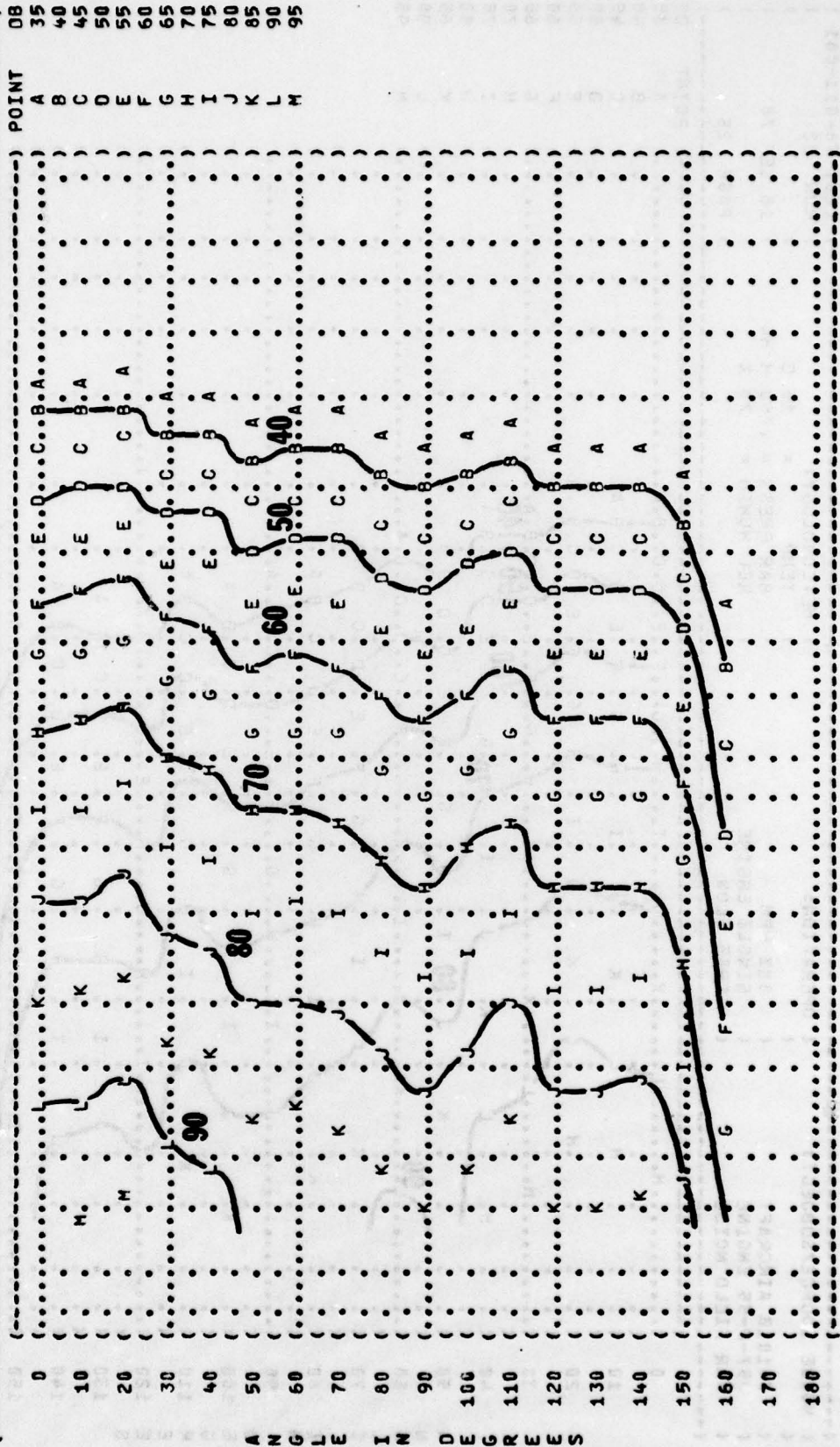
METEOROLOGY:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

80% RPM
SINGLE ENGINE
FREE FLOW

TEMP = 15 C
BAR PRESS = 760 M HG
REL HUMID = 70 %

PAGE 24



DISTANCE FROM SOURCE (METERS)

IDENTIFICATION:
OMEGA 1.4
TEST 70-011-00
RUN 02

OMEGA 1.4
TEST 78-011-001
RUN 02

1) METEOROLOGY:

RUN 02

TEMP = 15 C

BAR PRESS = .769 M HG

REL HUMID = 70 %

PAGE 25

POINT

ANGLE IN DEGREES

102

DISTANCE FROM SOURCE (METERS)

FIGURE 11
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
31.5 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-011-001

● METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

OPERATION:

90% RPM
SINGLE ENGINE
FREE FLOW

NOISE SOURCE/SUBJECT:

F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

POINT DB

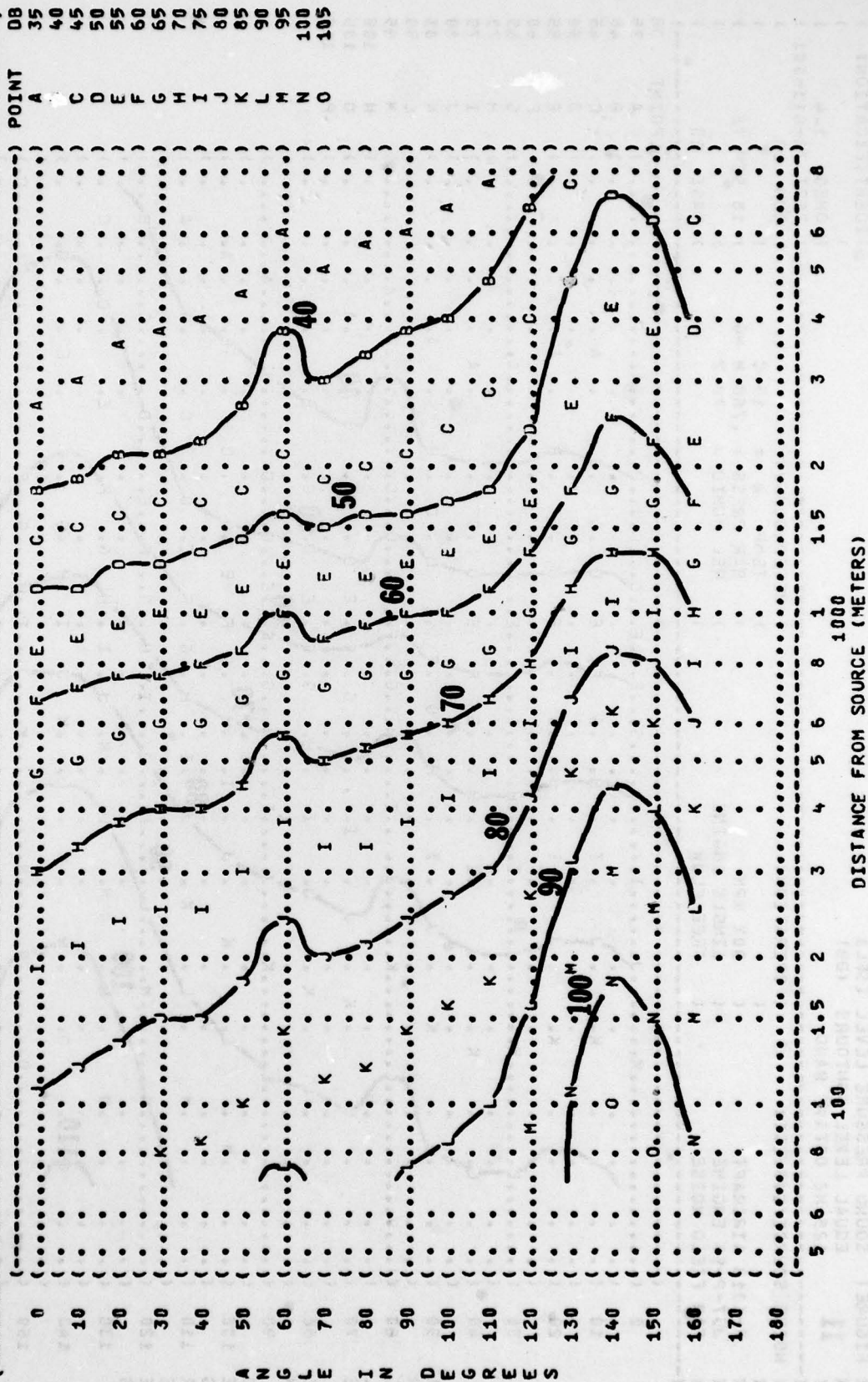
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A B C D E F G H I J K L M

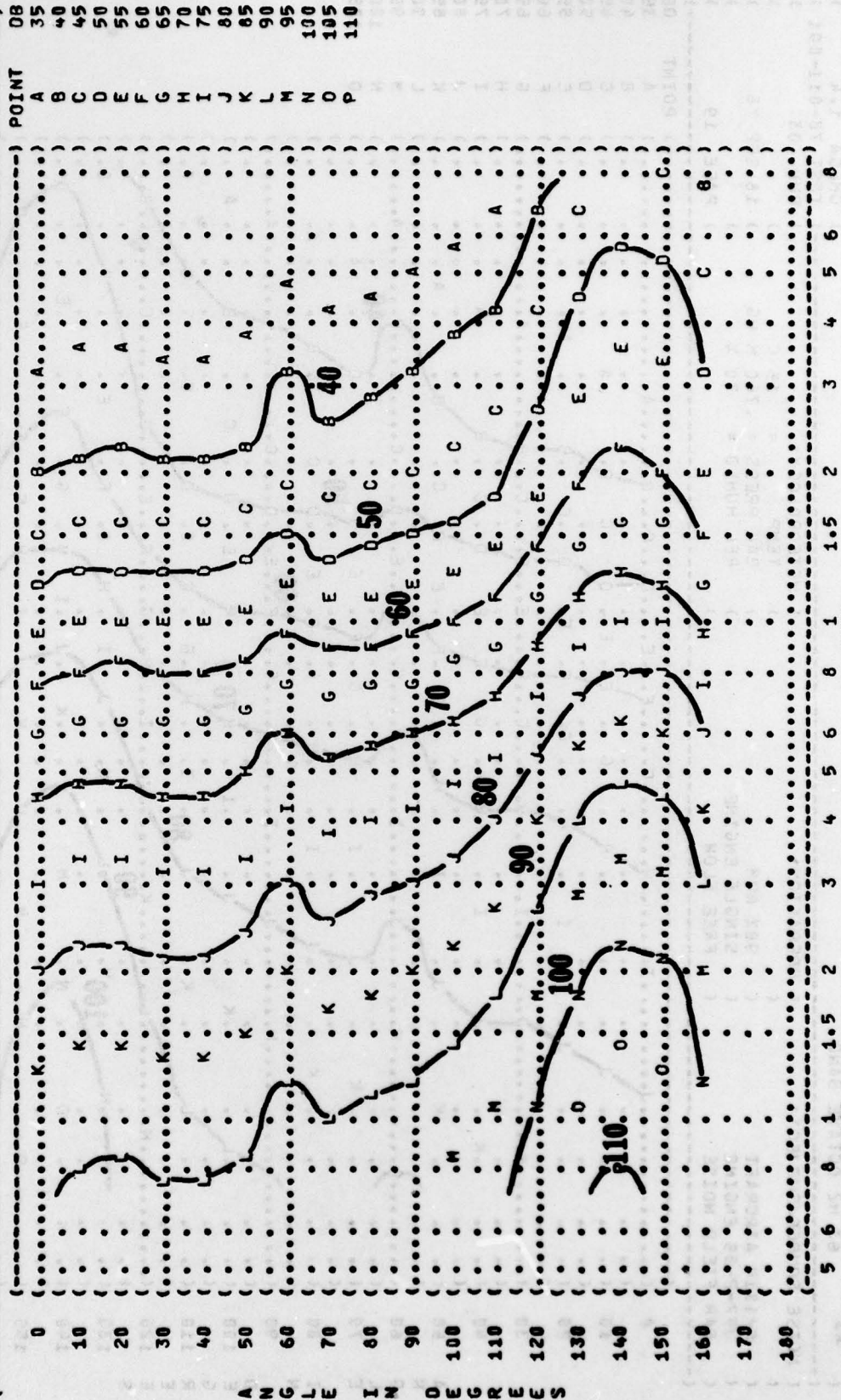
ANGLE IN DEGREES

DISTANCE FROM SOURCE (METERS)

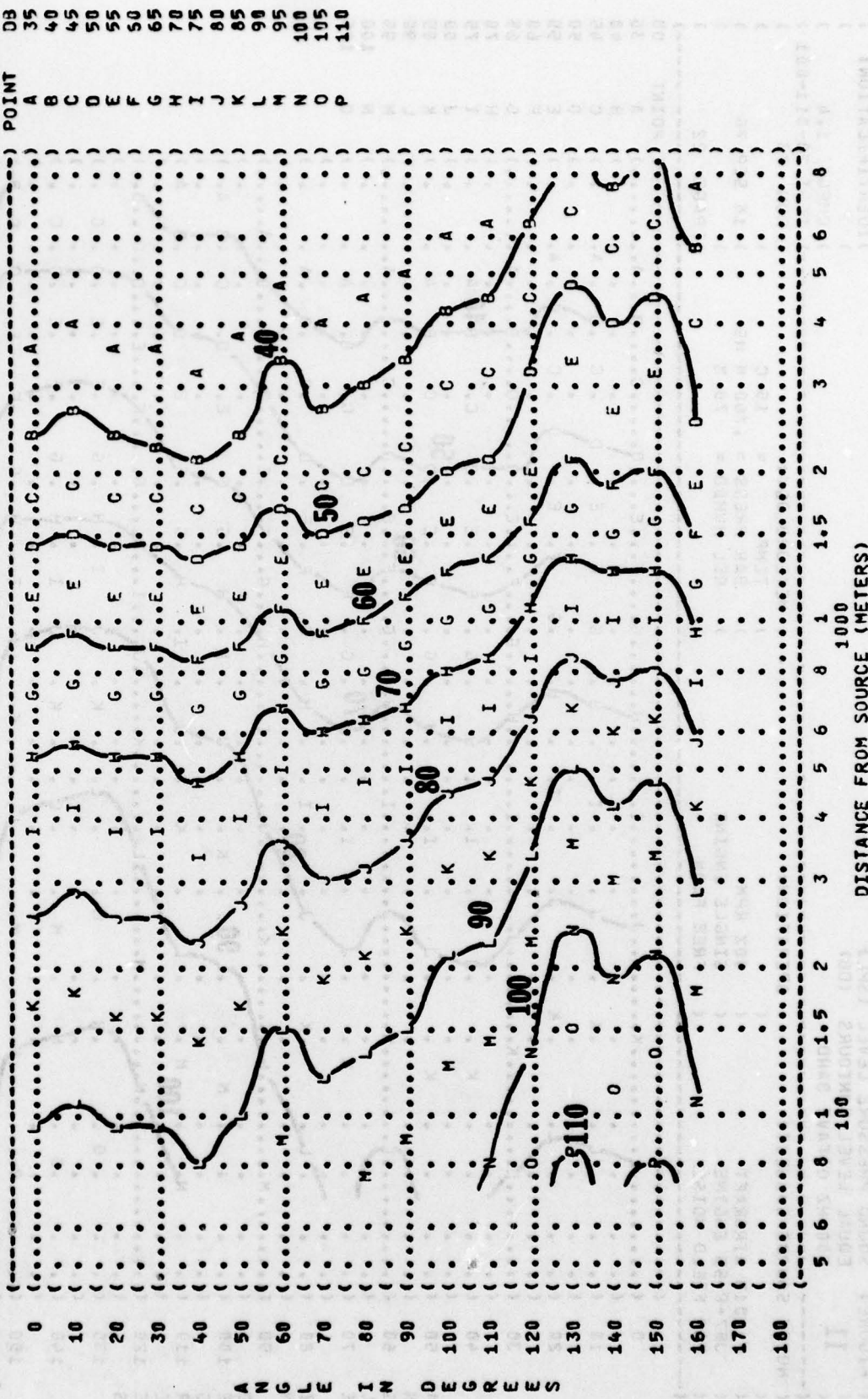
(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 63 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-101B AIRCRAFT (90% RPM
 (J57-P-55 ENGINE (SINGLE ENGINE
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY: (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION: (OMEGA 1.4
 (TEST 78-011-001
 (RUN 03
 (18 SEP 78
 (PAGE 19



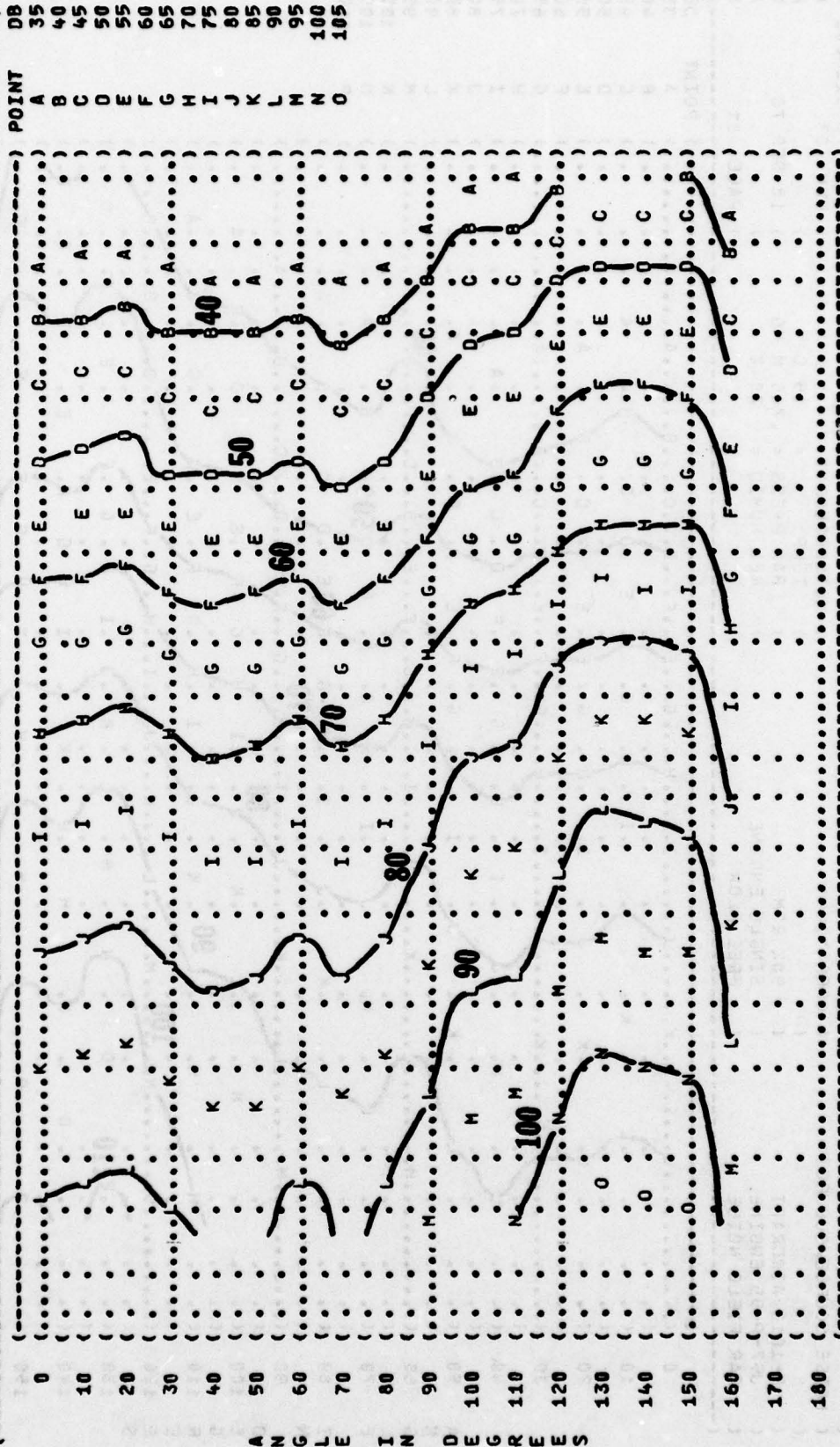
(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (125 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-101B AIRCRAFT (90% RPM
 (J57-P-55 ENGINE (SINGLE ENGINE
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 78-011-001
 (RUN 03
 (18 SEP 78
 (PAGE 20



((FIGURE 1 SOUND PRESSURE LEVEL (SPL)
 ((EQUAL LEVEL CONTOURS (DB)
 ((250 HZ OCTAVE BAND
 ((**11**
 ((NOISE SOURCE/SUBJECT: (OPERATION:
 ((F-101B AIRCRAFT (90% RPM
 ((J57-P-55 ENGINE (SINGLE ENGINE
 ((FAR FIELD NOISE (FREE FLOW
 ((METEOROLOGY:
 ((TEMP = 15 C
 ((BAR PRESS = .760 M HG
 ((REL HUMID = 70 %
 ((IDENTIFICATION:
 ((OMEGA 1.4
 ((TEST 78-011-001
 ((RUN 03
 ((PAGE 21

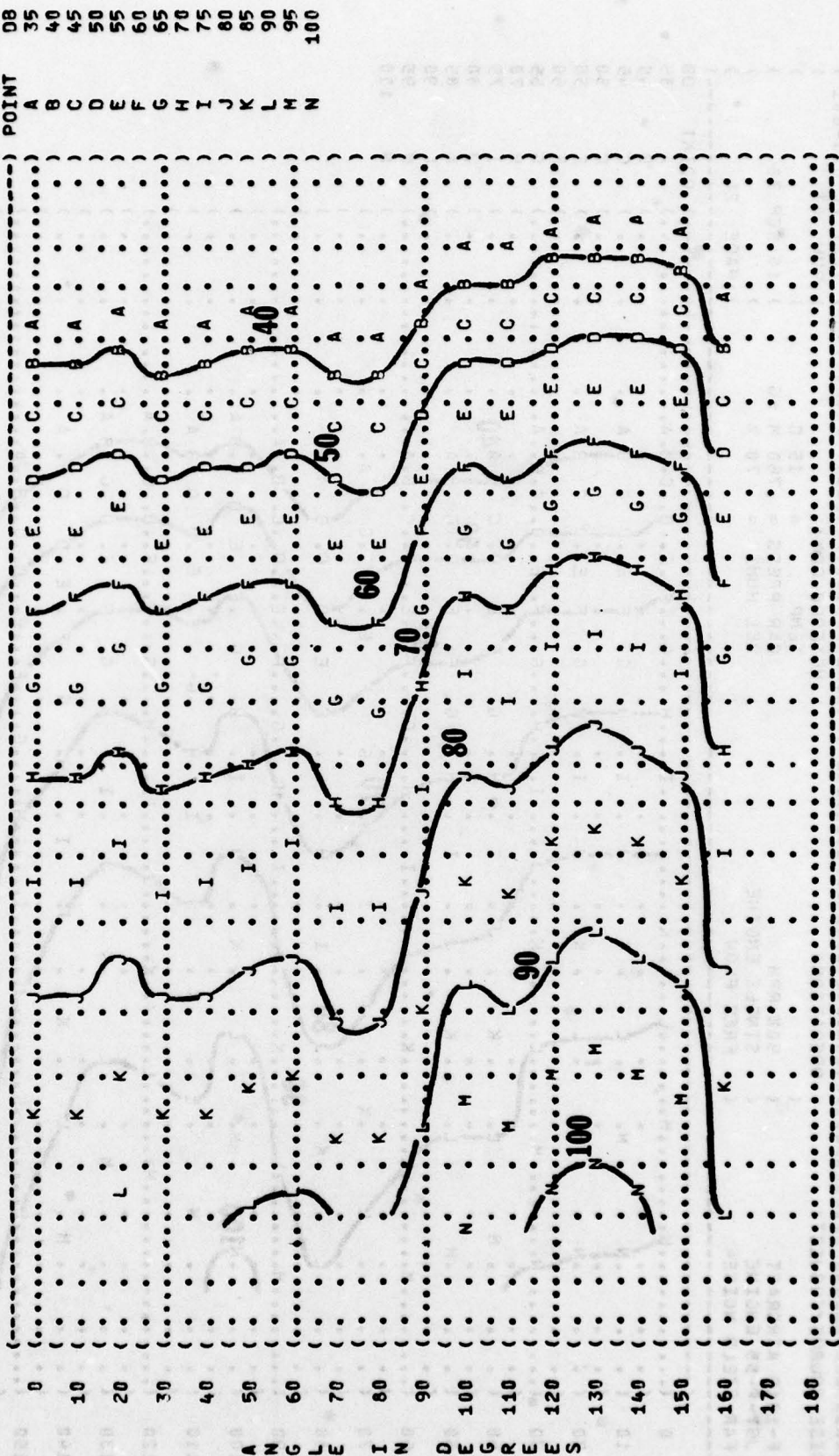


(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (500 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
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 (J57-P-55 ENGINE (SINGLE ENGINE
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY: = 15 C
 (TEMP = 18 SEP 78
 (BAR PRESS = 760 M HG
 (REL HUMID = 70 %
 (PAGE 22
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 78-011-001
 (RUN 03



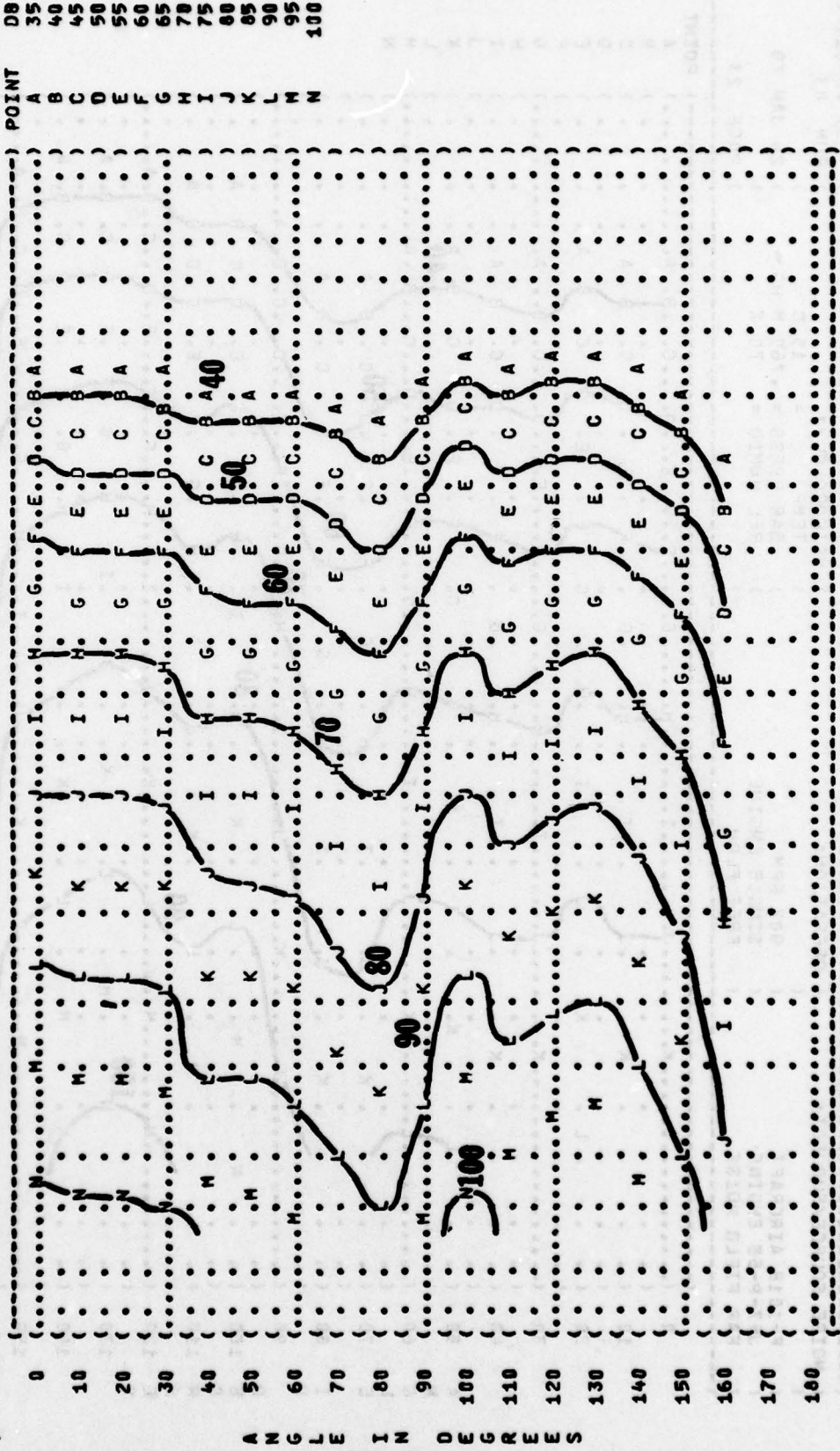
DISTANCE FROM SOURCE (METERS)

((FIGURE: SOUND PRESSURE LEVEL (SPL)
 ((11 EQUAL LEVEL CONTOURS (DB)
 ((1000 HZ OCTAVE BAND
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 ((J57-P-55 ENGINE (SINGLE ENGINE
 ((FAR FIELD NOISE (FREE FLOW
 ((METEOROLOGY: (TEMP = 15 C
 ((BAR PRESS = .760 M HG
 ((REL HUMID = 70 %
 ((24 JAN 79
 ((PAGE 23
 ((IDENTIFICATION:
 ((OMEGA 1.4
 ((TEST 78-011-001
 ((RUN 03



5 6 8 1 1.5 2 3 4 5 6 8
 100
 DISTANCE FROM SOURCE (METERS)

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 2000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-101B AIRCRAFT (90% RPM
 (J57-P-55 ENGINE (SINGLE ENGINE
 (FAR FIELD NOISE (FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 78-011-001
 (RUN 03
 (18 SEP 78
 (PAGE 24



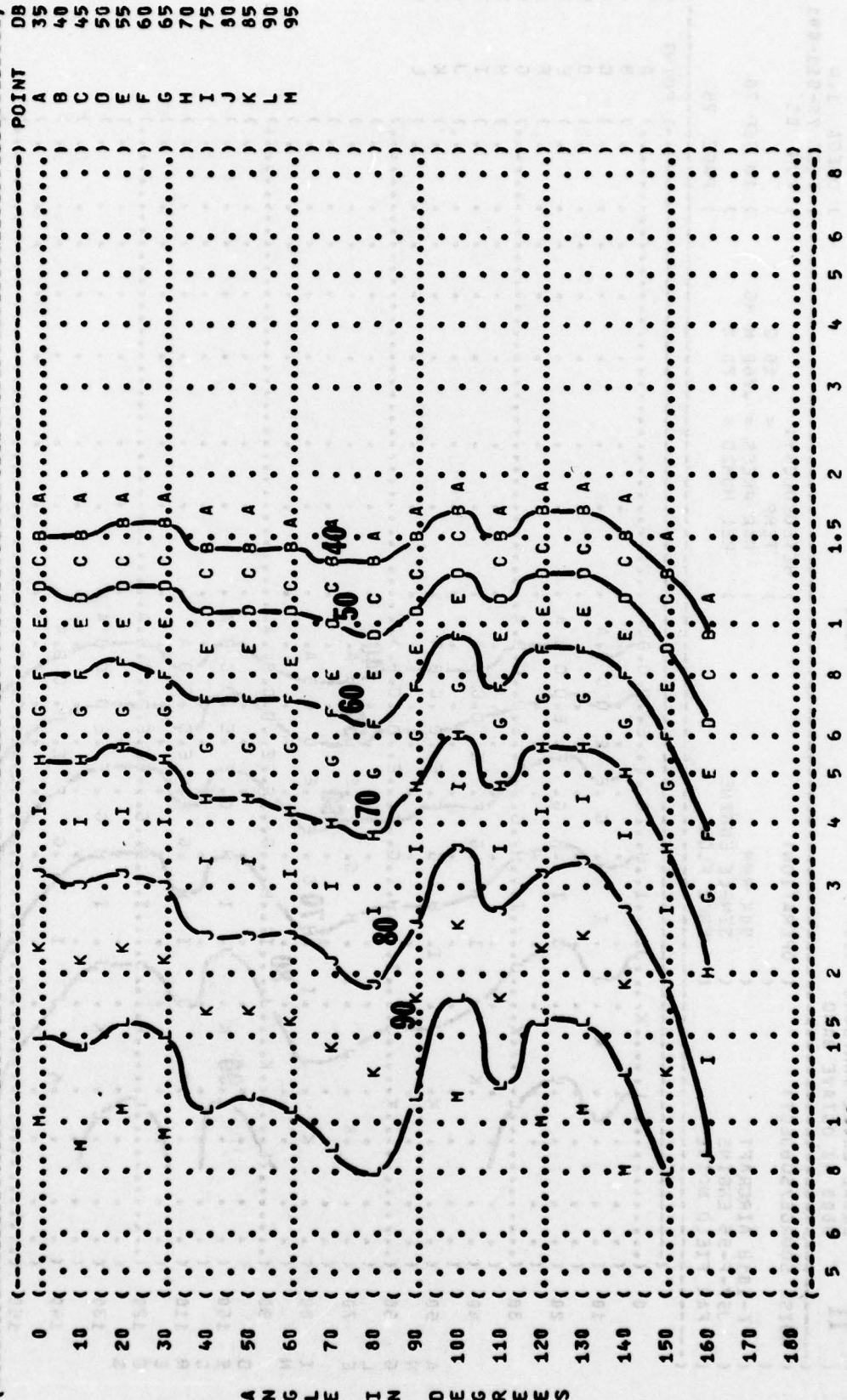
ANGL IN DEGREE S

DISTANCE FROM SOURCE (METERS)

FIGURE: SOUND PRESSURE LEVEL (SPL)
 11 EQUAL LEVEL CONTOURS (DB)
 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:)
 (F-101B AIRCRAFT (90% RPM) TEMP = 15 C)
 (J57-P-55 ENGINE (SINGLE ENGINE) BAR PRESS = .760 M HG)
 (FAR FIELD NOISE (FREE FLOW) REL HUMID = 70 %)

IDENTIFICATION:)
) OMEGA 1.4
) TEST 78-011-001
) RUN 03
) 18 SEP 78
) PAGE 25

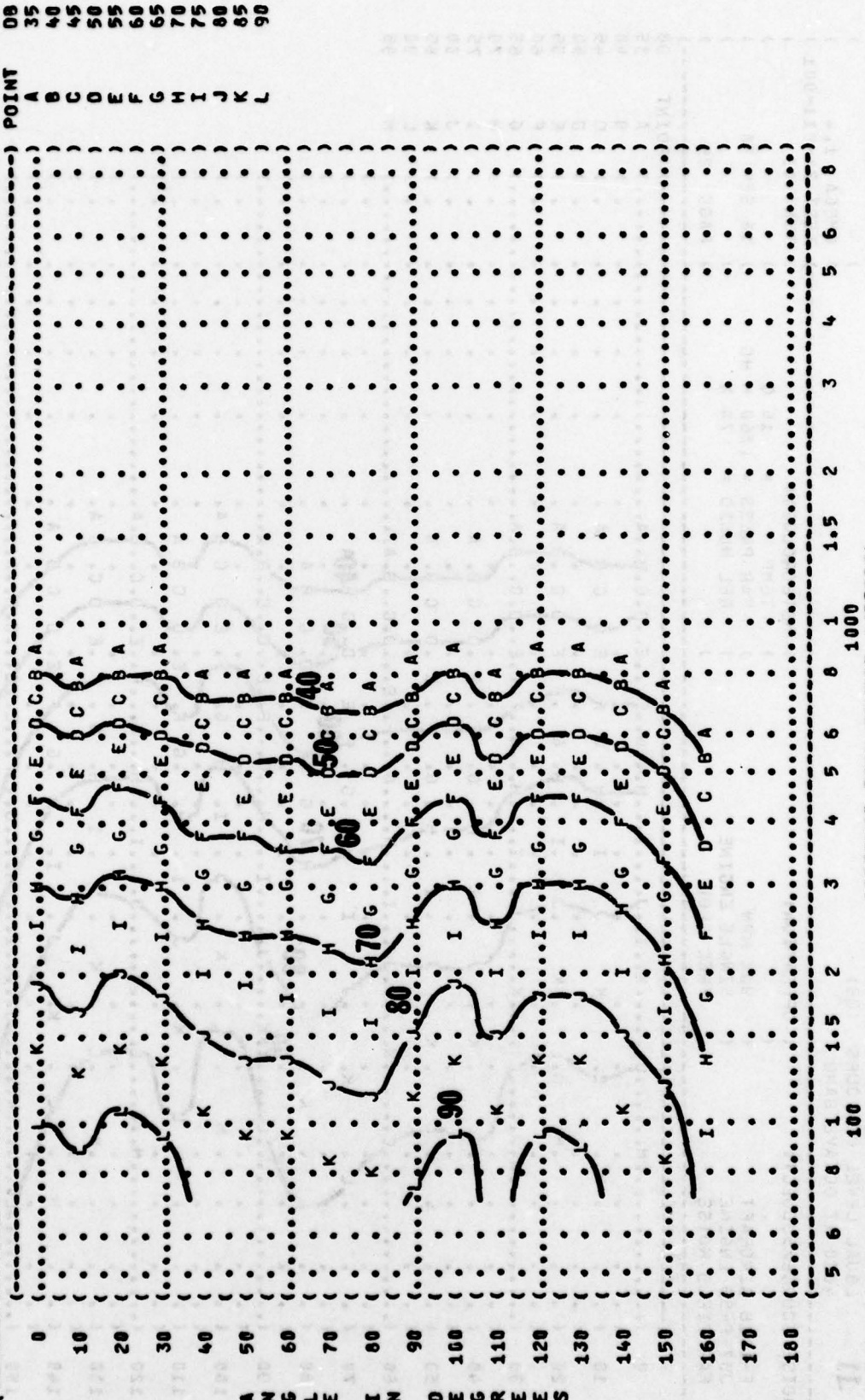


A N G L E I N D E G R E E S

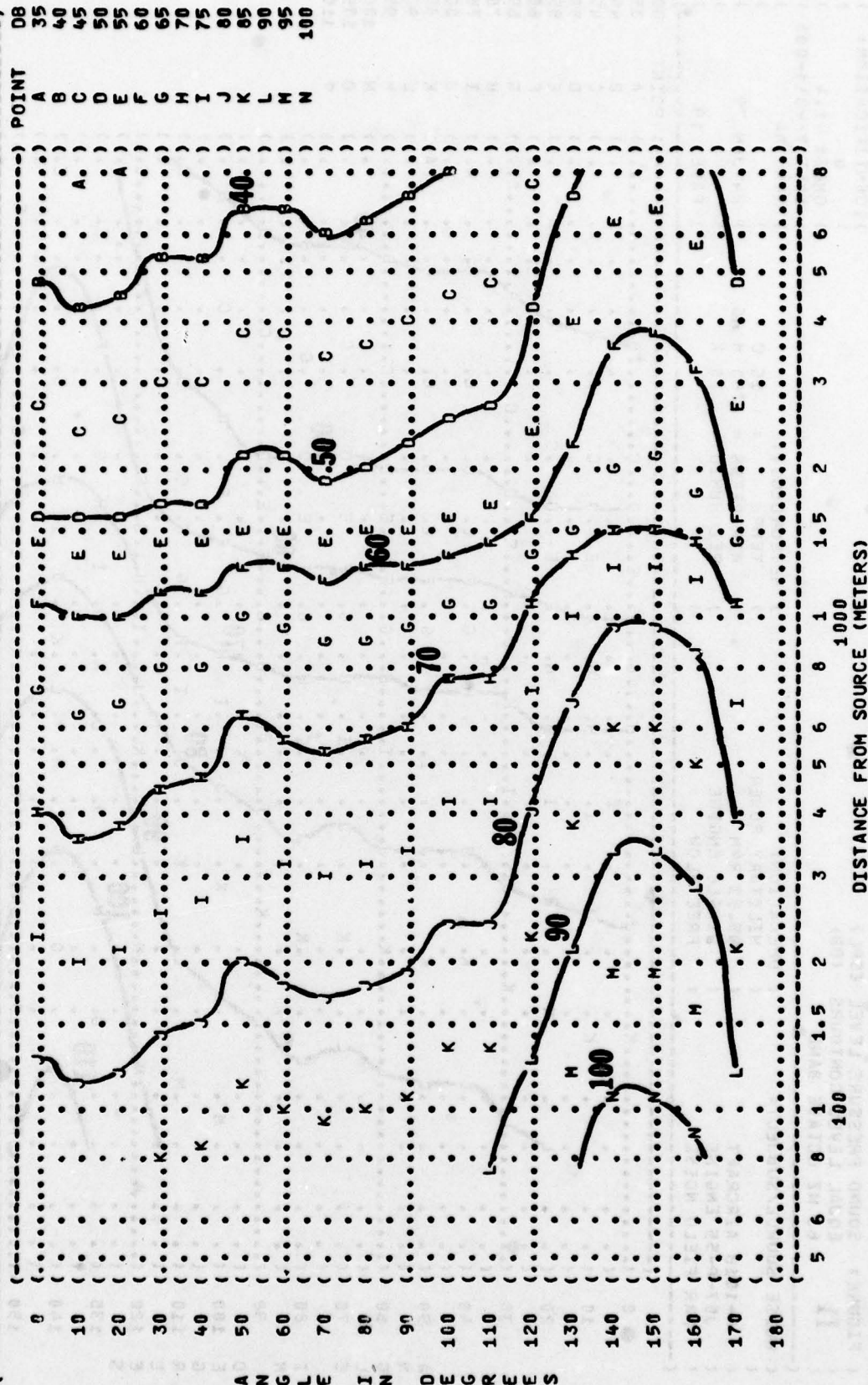
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( ) FIGURE: SOUND PRESSURE LEVEL (SPL) ) IDENTIFICATION:
( ) EQUAL LEVEL CONTOURS (DB) )
( ) 8000 HZ OCTAVE BAND )
( ) 11 ) OMEGA 1.4
( ) ) TEST 78-011-001
( ) NOISE SOURCE/SUBJECT: ) METEOROLOGY:
( ) ( OPERATION: ) TEMP = 15 C
( ) ( 90% RPM ) BAR PRESS = .760 M HG
( ) ( SINGLE ENGINE ) REL HUMID = 70 %
( ) ( FREE FLOW ) ) PAGE 26
( ) F-101B AIRCRAFT
( ) J57-P-55 ENGINE
( ) FAR FIELD NOISE

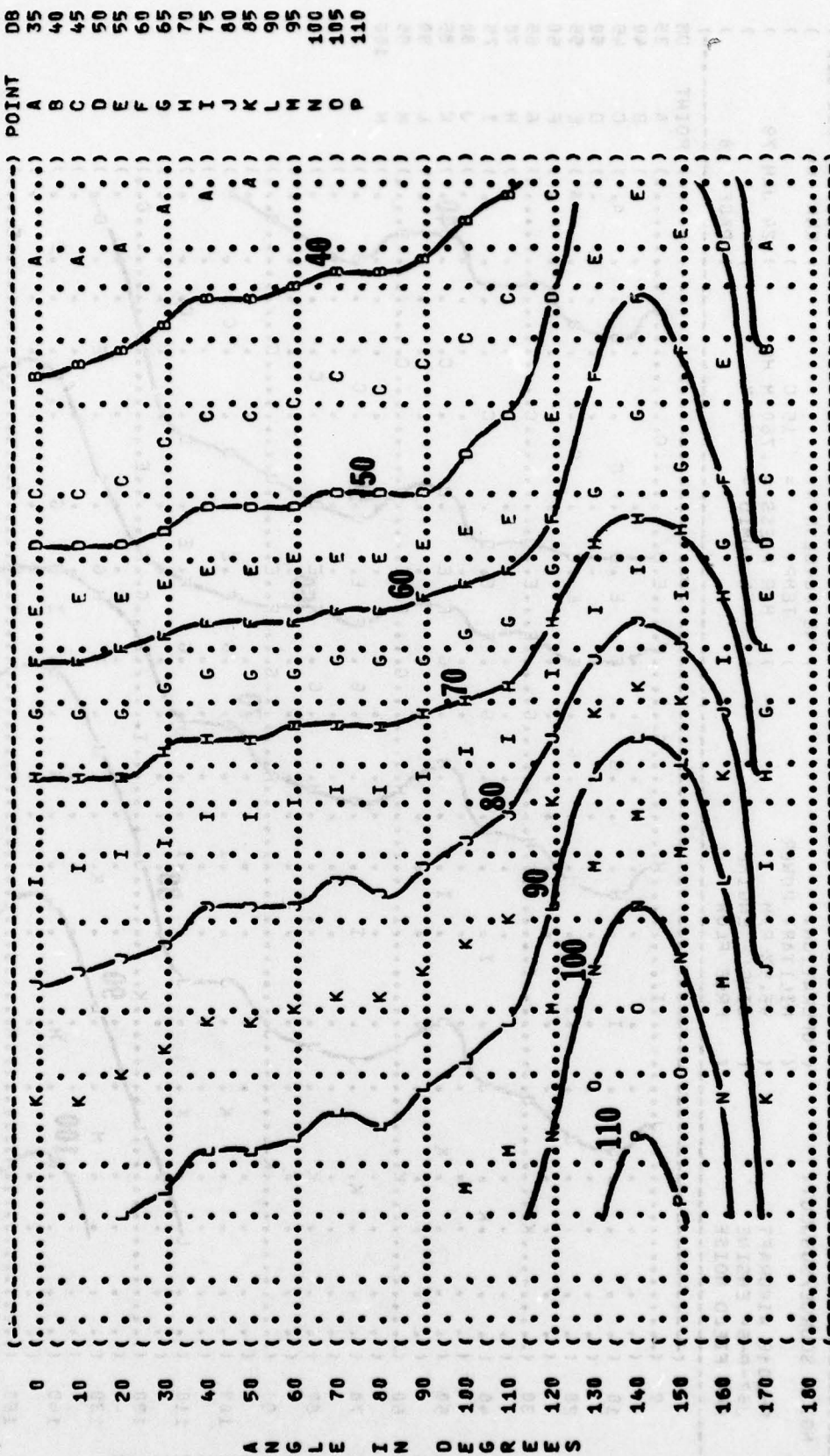
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() IDENTIFICATION: ()
 ()
 () OMEGA 1.4
 () TEST 78-011-001
 () RUN 04
 ()
 () NOISE SOURCE/SUBJECT: () OPERATION: () METEOROLOGY: ()
 () F-101B AIRCRAFT () MILITARY POWER () TEMP = 15 C
 () J57-P-55 ENGINE () 95.5% RPM () BAR PRESS = .760 M HG
 () FAR FIELD NOISE () SINGLE ENGINE () REL HUMID = 70 %
 () FREE FLOW ()
 () PAGE 18



(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (63 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (F-101B AIRCRAFT)
 (J57-P-55 ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (MILITARY POWER)
 (95.5% RPM)
 (SINGLE ENGINE)
 (FREE FLOW)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 78-011-001)
 (RUN #4)
 (24 JAN 79)
 (PAGE 19)



5 6 8 1 1.5 2 3 4 5 6 8
 100 1000
 DISTANCE FROM SOURCE (METERS)

FIGURE: 11 SOUND PRESSURE LEVEL {SPL} EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 78-011-001
RUN 04

NOISE SOURCE/SUBJECT:

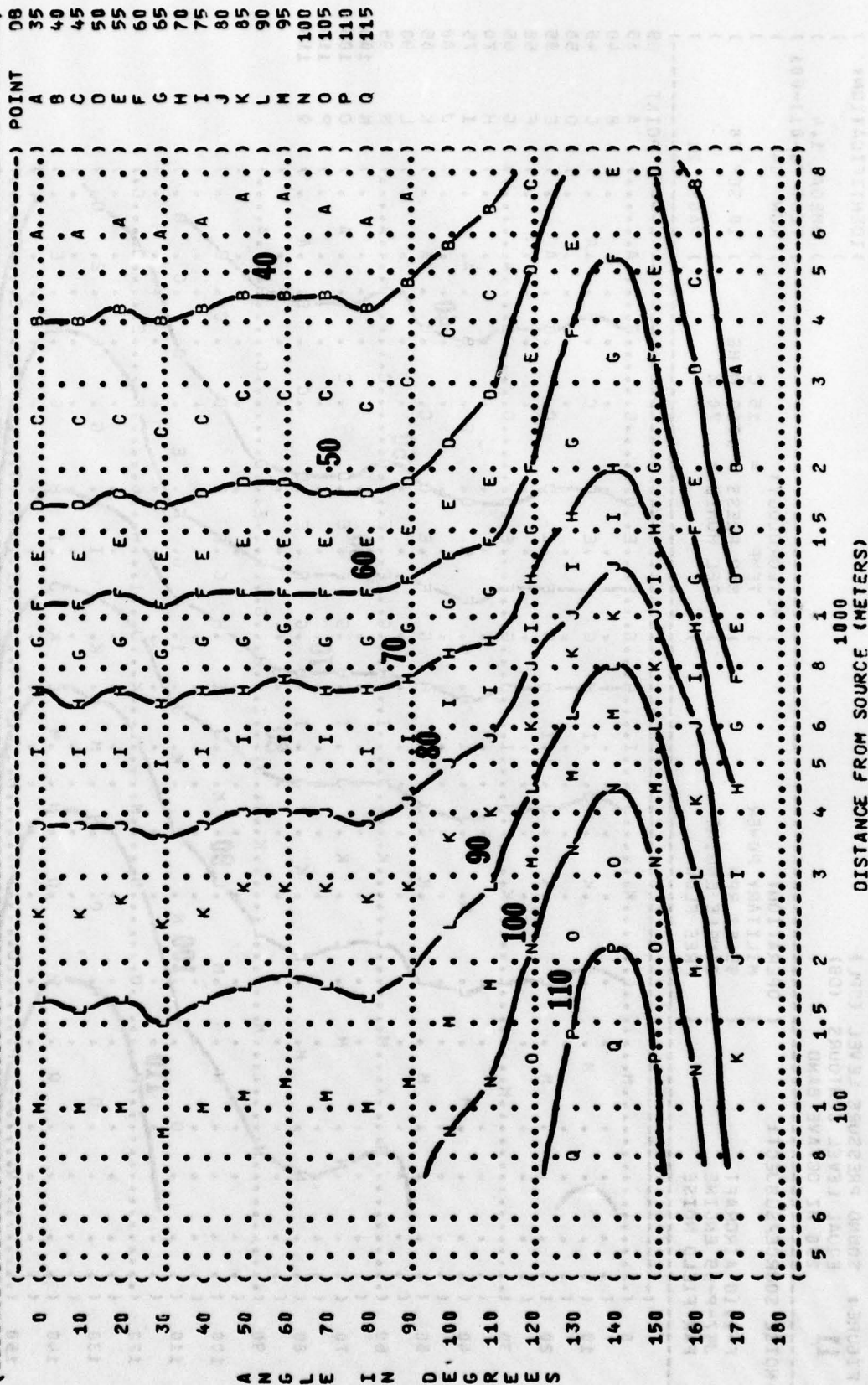
(OPERATION:

NOISE SOURCE/SUBJECT:	OPERATION:
F-101B AIRCRAFT	MILITARY POWER
J57-P-55 ENGINE	95.5% RPM
FAR FIELD NOISE	SINGLE ENGINE
	FREE FLOW

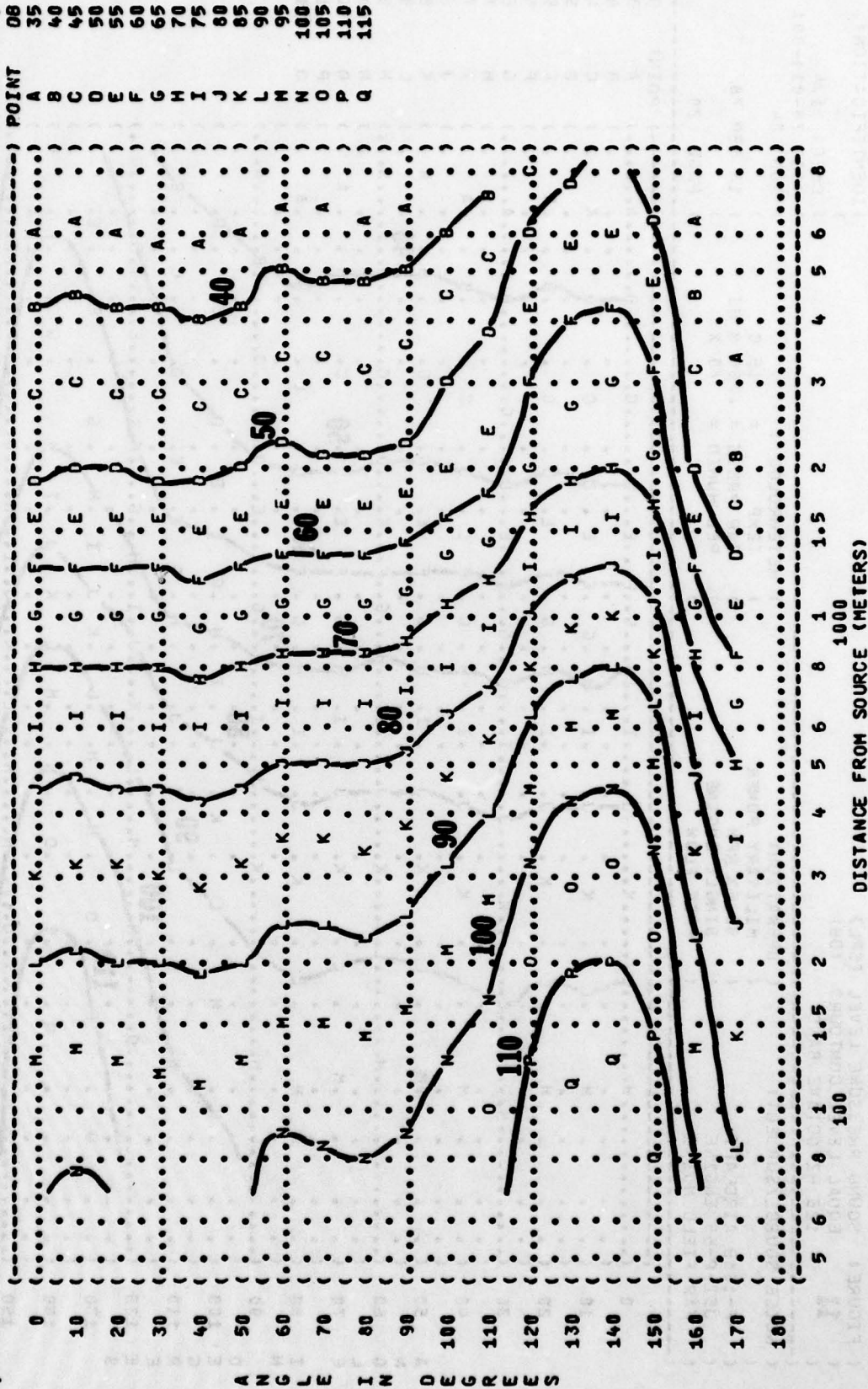
0 METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

PAGE 20



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (250 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (F-1018 AIRCRAFT (MILITARY POWER
 (J57-P-55 ENGINE (95-5% RPM
 (FAR FIELD NOISE (SINGLE ENGINE
 ((FREE FLOW
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 78-011-001
 (RUN 04
 (10 SEP 78
 (PAGE 21



11 **FIGURE: SOUND PRESSURE LEVEL {SPL} EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND**

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( ( FIGURE: SOUND PRESSURE LEVEL {SPL} ) IDENTIFICATION: )
( ( EQUAL LEVEL CONTOURS (DB) ) )
( ( 11 ) OMEGA 1.4 )
( ( 500 HZ OCTAVE BAND ) TEST 78-011-001 )
( ( NOISE SOURCE/SUBJECT: ) RUN 04 )
( ( OPERATION: ) METEOROLOGY: )
( ( MILITARY POWER ) TEMP = 15 C )
( ( 95.5% RPM ) BAR PRESS = .760 M HG )
( ( SINGLE ENGINE ) REL HUMID = 70 % )
( ( FREE FLOW ) )
( ( F-101B AIRCRAFT ) )
( ( J57-P-55 ENGINE ) )
( ( FAR FIELD NOISE ) PAGE 22 )

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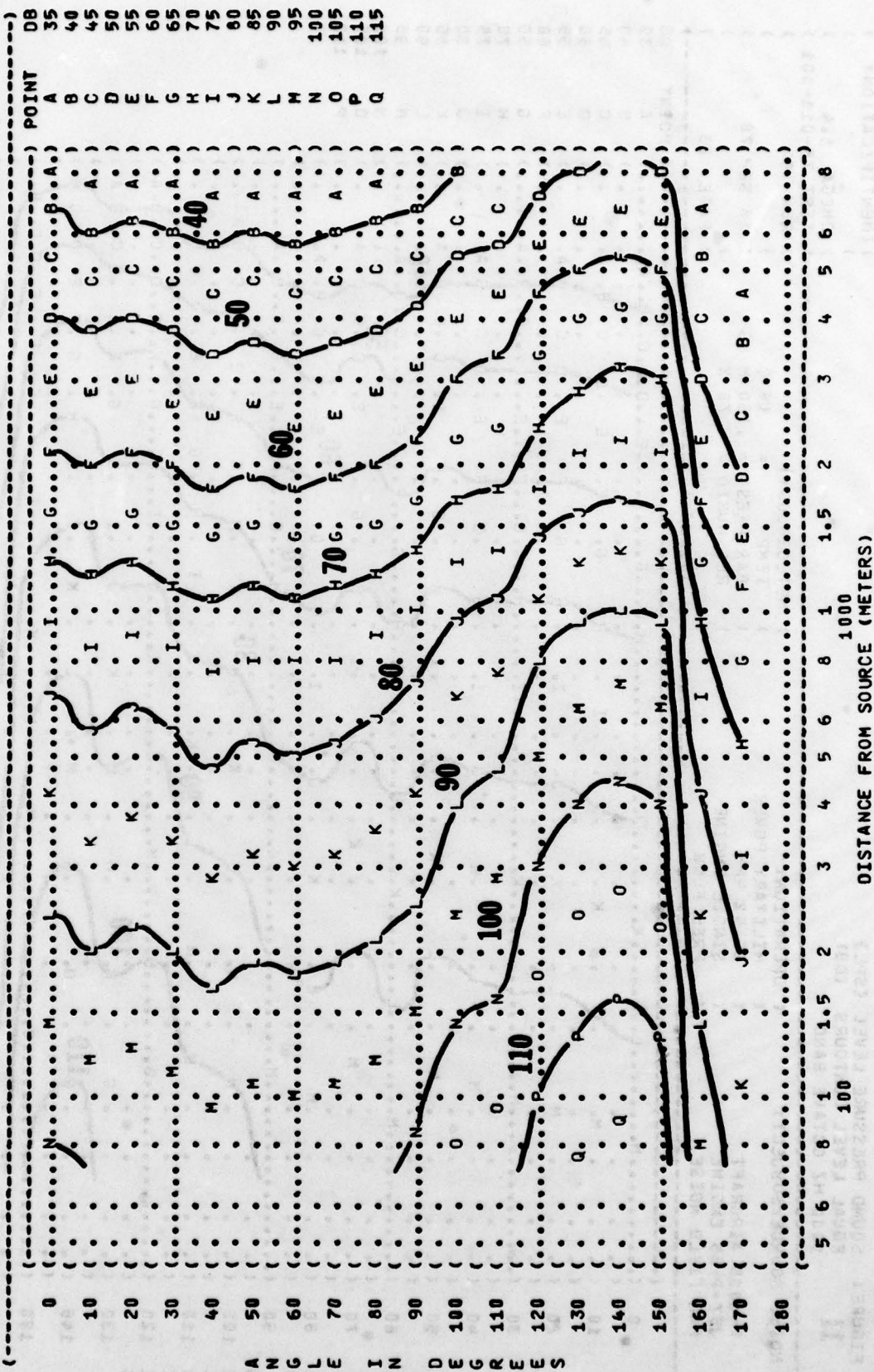


FIGURE: SOUND PRESSURE LEVEL {SPL}
 11 EQUAL LEVEL CONTOURS (DB)
 1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:)
 (F-101B AIRCRAFT (MILITARY POWER () TEMP = 15 C)
 (J57-P-55 ENGINE (SINGLE ENGINE () BAR PRESS = .760 M HG)
 (FAR FIELD NOISE (FREE FLOW () REL HUMID = 70 %)
 () () () RUN 04)
 () () () 18 SEP 78)
 () () () PAGE 23)

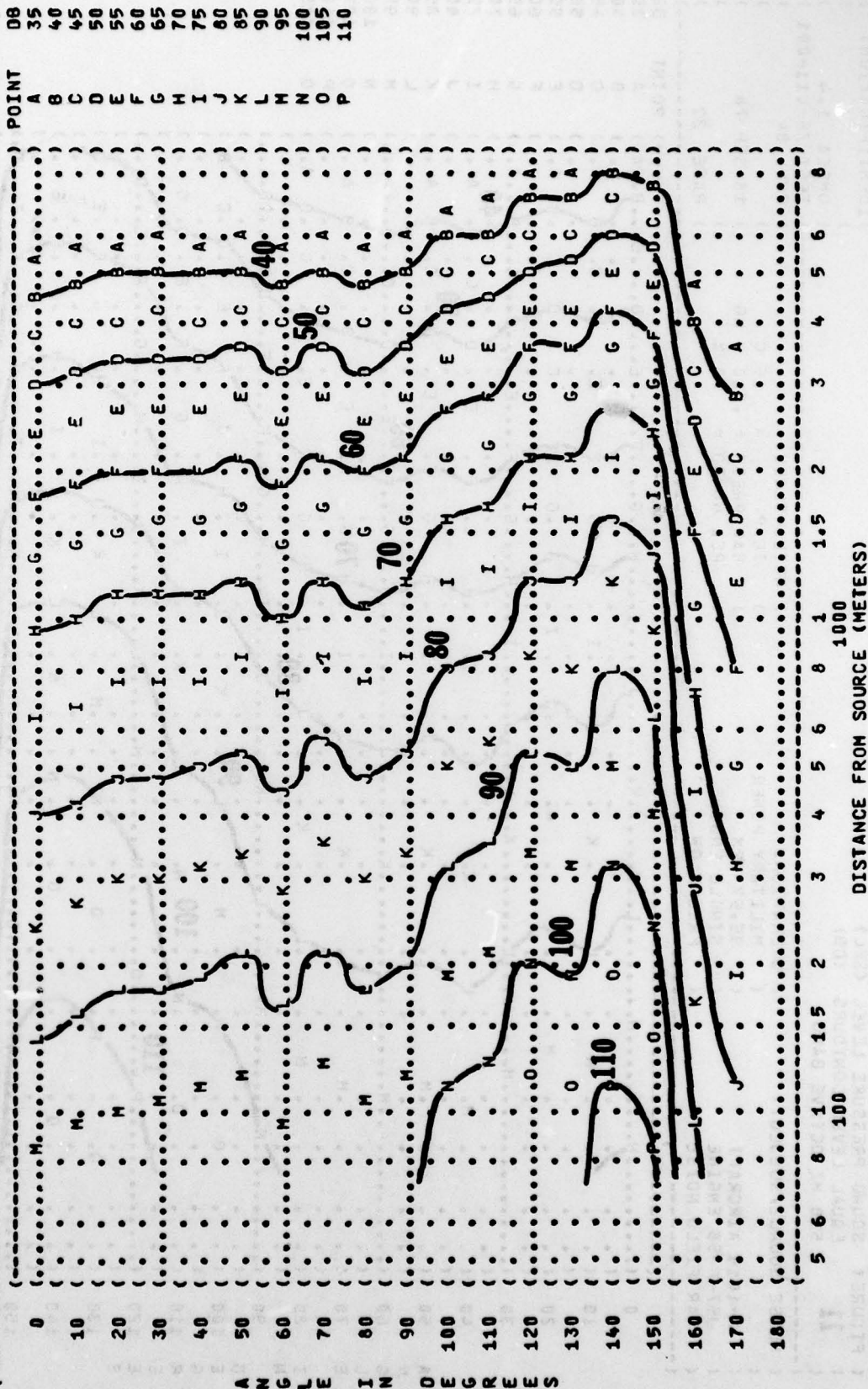


FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
2000 HZ OCTAVE BAND

11

IDENTIFICATION:

OMEGA 1.4

TEST 78-011-001

RUN 04

NOISE SOURCE/SUBJECT:
F-1018 AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

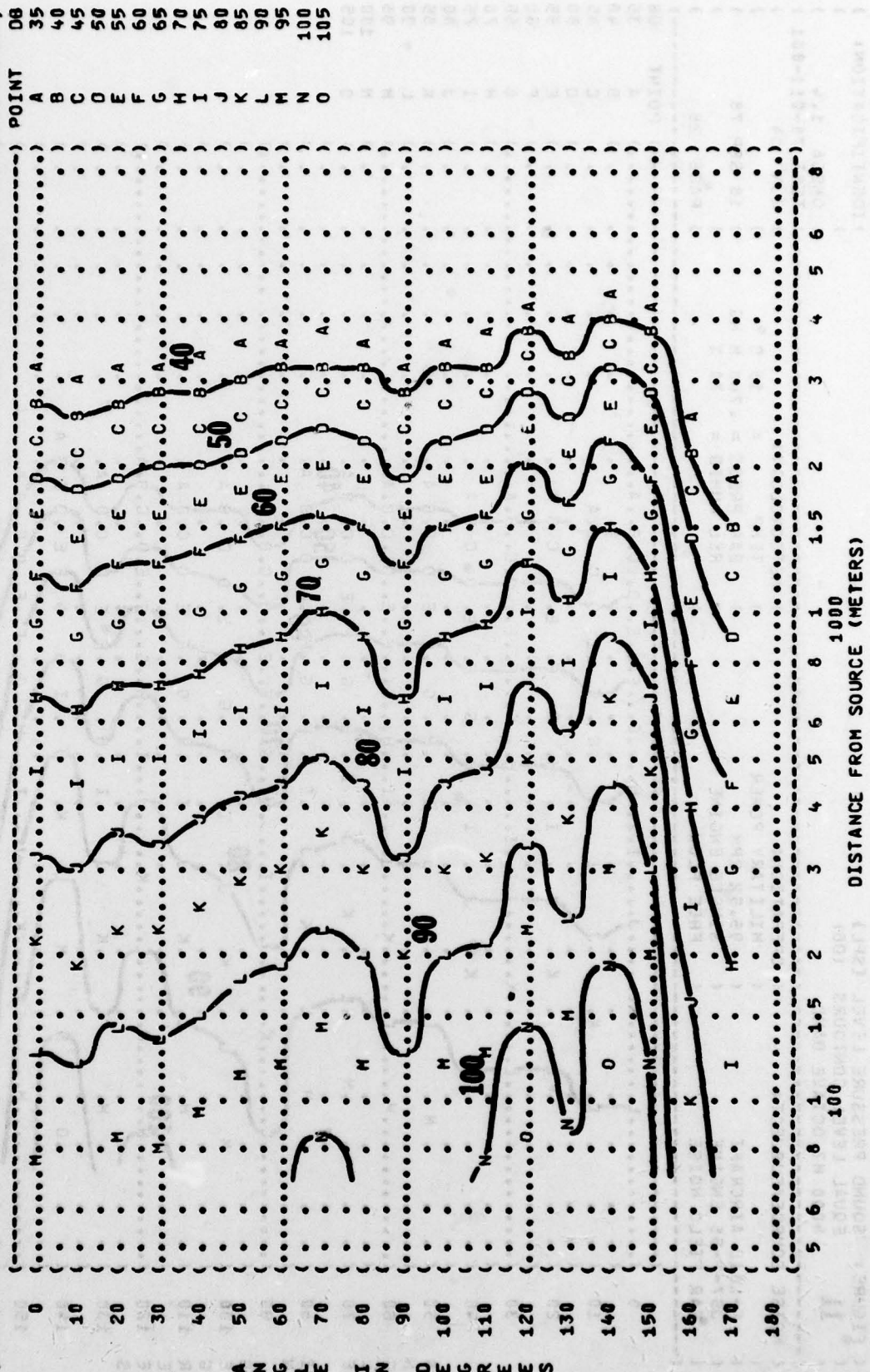
METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

OPERATION:

MILITARY POWER
95.5% RPM
SINGLE ENGINE
FREE FLOW

PAGE 24



DISTANCE FROM SOURCE (METERS)


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IDENTIFICATION:
OMEGA 1.4
TEST 70-011-001
RUN 04
10 SEP 70
PAGE 26

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SOURCE/SUBJECT:

OPERATION:

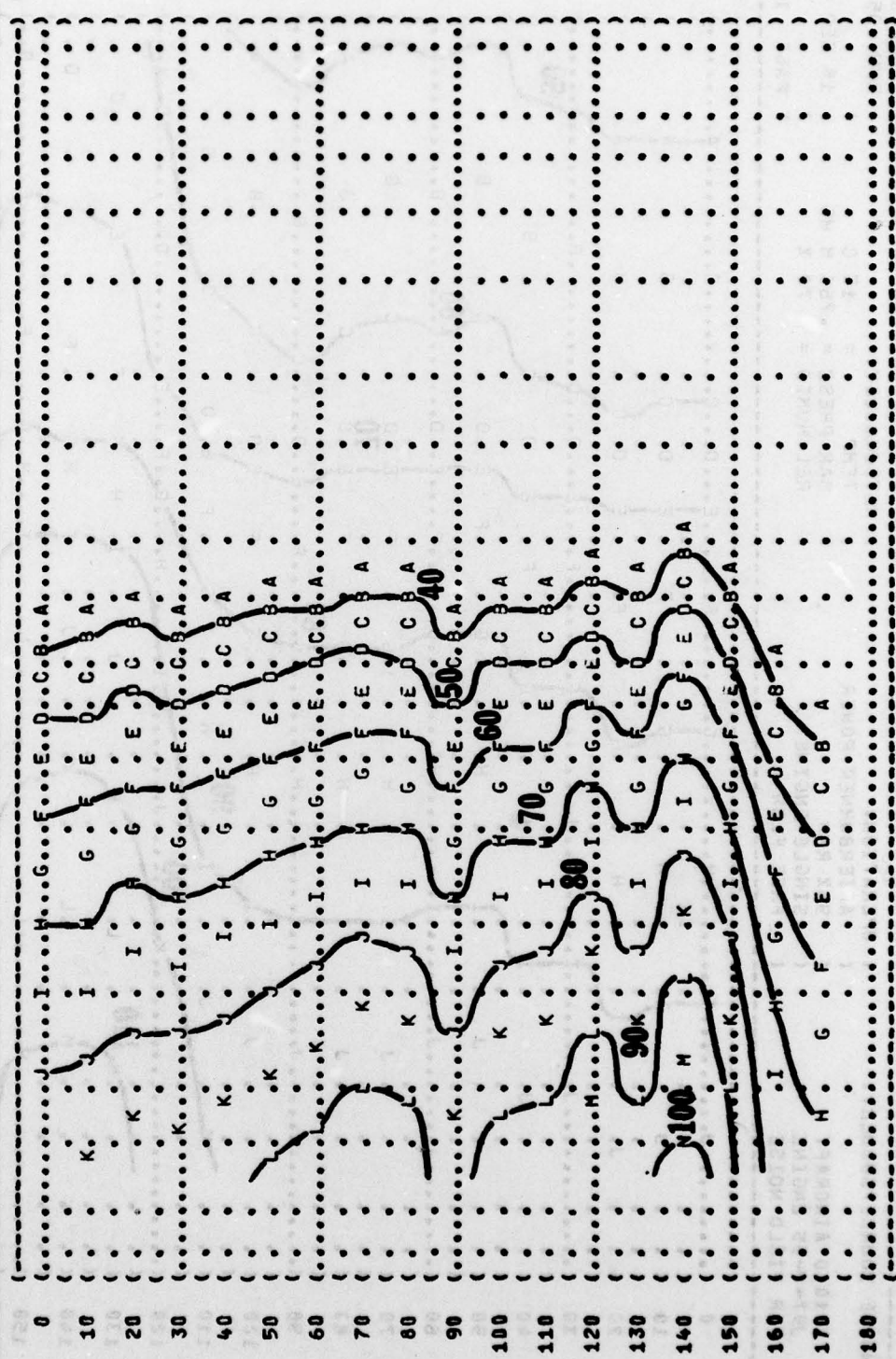
F-101B AIRCRAFT
J57-P-55 ENGINE
FAR FIELD NOISE

**MILITARY POWER
95.5% RPM
SINGLE ENGINE
FREE FLOW**

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

PAGE 26

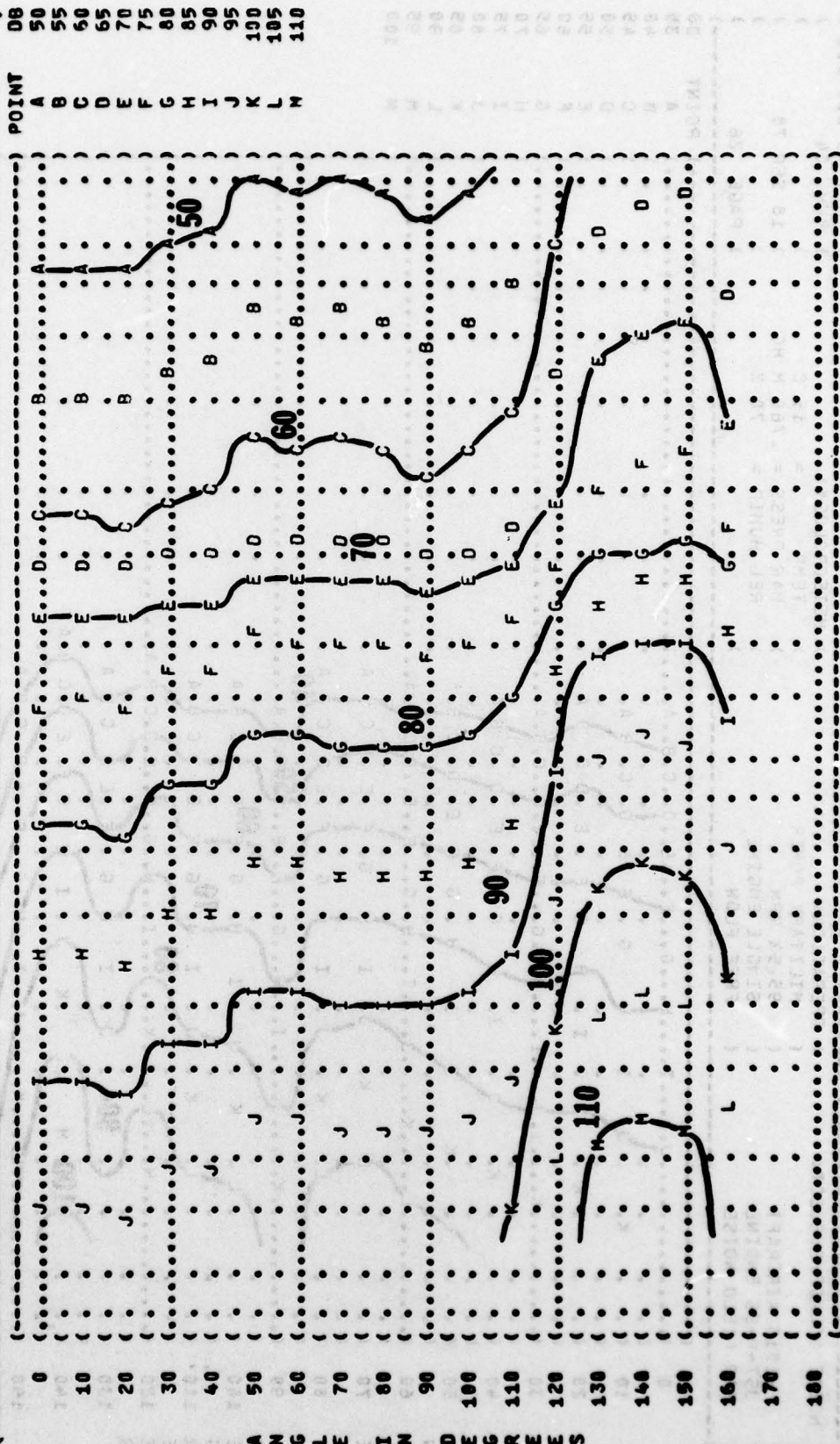
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DISTANCE FROM SOURCE (METERS)

5 6 8 1
100

ANGLE IN DEGREES

((FIGURE: SOUND PRESSURE LEVEL (SPL)) IDENTIFICATION:)
 ((11 EQUAL LEVEL CONTOURS (DB)))
 ((31.5 HZ OCTAVE BAND))
 ((NOISE SOURCE/SUBJECT:))
 ((F-101B AIRCRAFT))
 ((J57-P-55 ENGINE))
 ((FAR FIELD NOISE))
 ((OPERATION:))
 ((AFTERBURNER POWER))
 ((96% RPM))
 ((SINGLE ENGINE))
 ((FREE FLOW))
 ((METEOROLOGY:))
 ((TEMP = 15 C))
 ((BAR PRESS = .760 M HG))
 ((REL HUMID = 70 %))
 ((RUN 05))
 ((18 SEP 78))
 ((PAGE 18))
 ((OMEGA 1.4))
 ((TEST 78-011-001))
 (())



A N G L E I N D E G R E E S

FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
63 HZ OCTAVE BAND

11

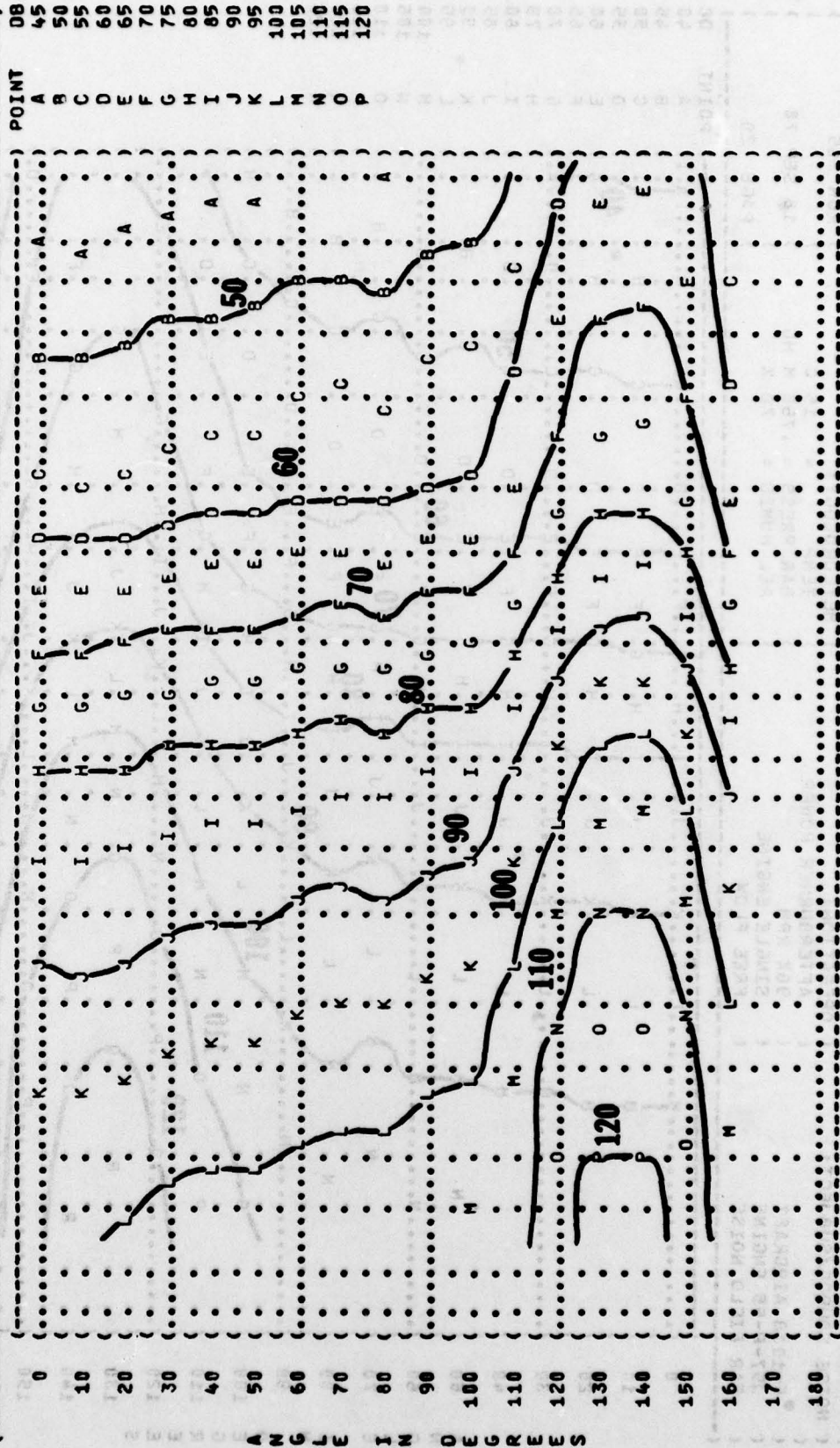
IDENTIFICATION:
OMEGA 1.4
TEST 78-011-001
RUN 05

NOISE SOURCE/SUBJECT:

OPERATION:
AFTERBURNER POWER
96% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

PAGE 19

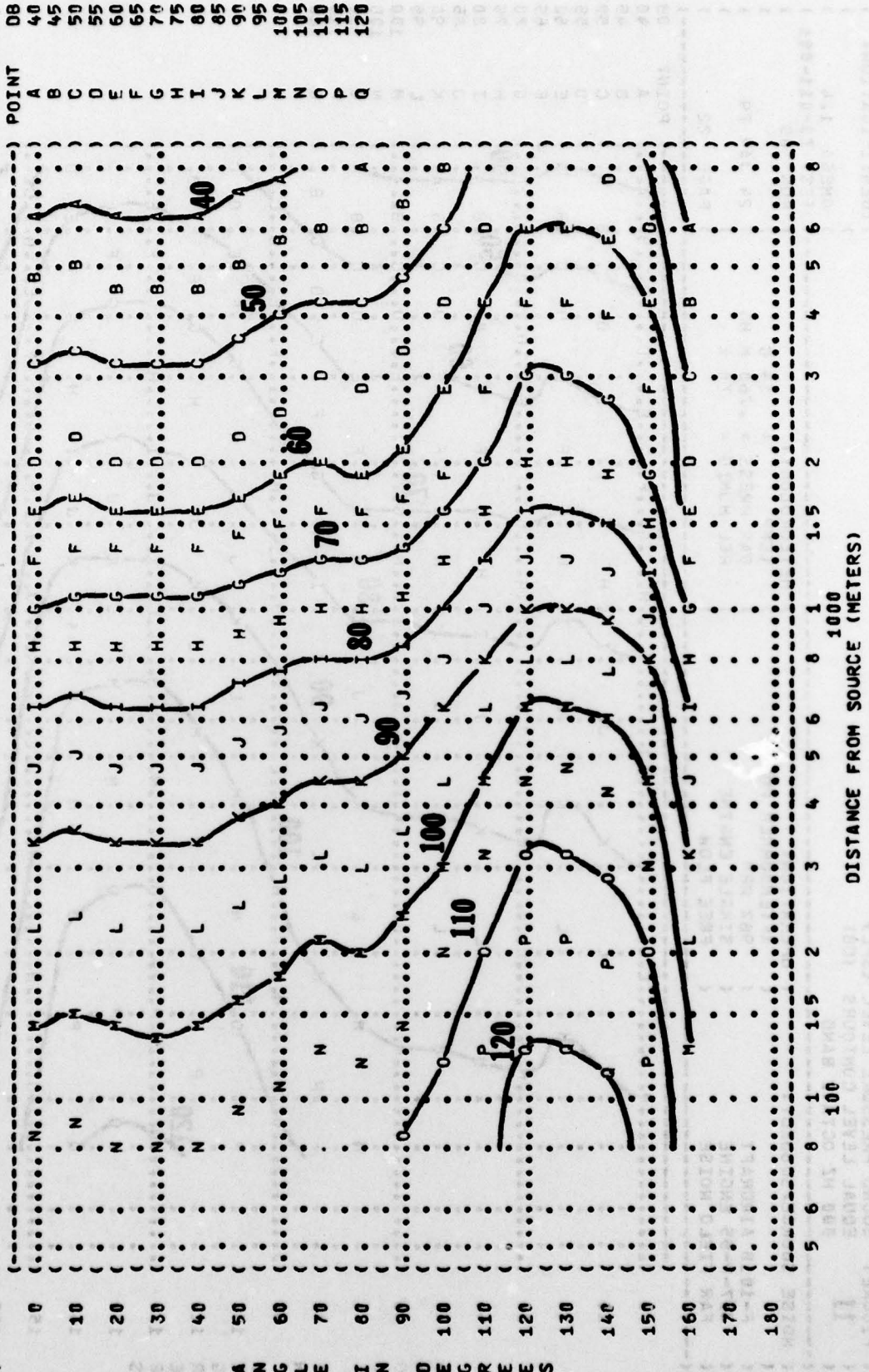


DISTANCE FROM SOURCE (METERS)

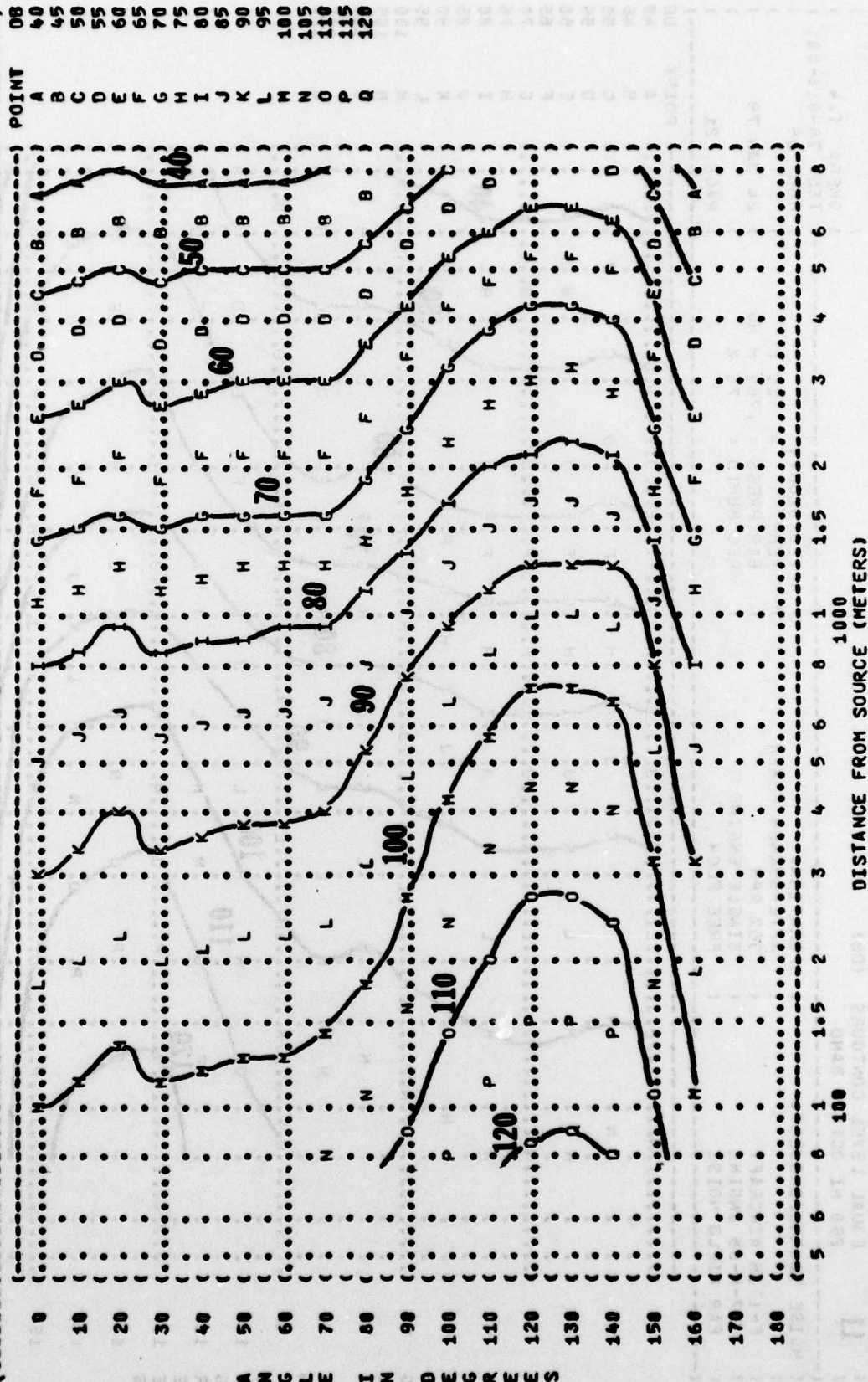
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND



(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (250 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (F-111B AIRCRAFT)
 (J57-P-55 ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (AFTERBURNER POWER)
 (96% RPM)
 (SINGLE ENGINE)
 (FREE FLOW)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 78-011-001)
 (RUN 05)
 (24 JAN 79)
 (PAGE 21)



```
(-----)
( FIGURE: SOUND PRESSURE LEVEL {SPL} ) IDENTIFICATION: )
( 11 EQUAL LEVEL CONTOURS (DB) ) )
( 500 HZ OCTAVE BAND ) OMEGA 1.4 )
( ) TEST 78-011-001 )
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: ) RUN 05 )
( ) ) )
( F-101B AIRCRAFT ) AFTERBURNER POWER ) TEMP = 15 C )
( J57-P-55 ENGINE ) 96% RPM ) BAR PRESS = .760 M HG )
( FAR FIELD NOISE ) SINGLE ENGINE ) REL HUMID = 70 % )
( ) FREE FLOW ) ) PAGE 22 )
(-----)
```



IDENTIFICATION:)
)
) OMEGA 1.4)

OMEGA 1

OMEGA 1.4

METEOROLOGY:

RUN 05

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

BAR PRESS = .760 M HG

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FORM 23



FIGURE: SOUND PRESSURE LEVEL (SPL)
 11 EQUAL LEVEL CONTOURS (DB)
 2000 HZ OCTAVE BAND

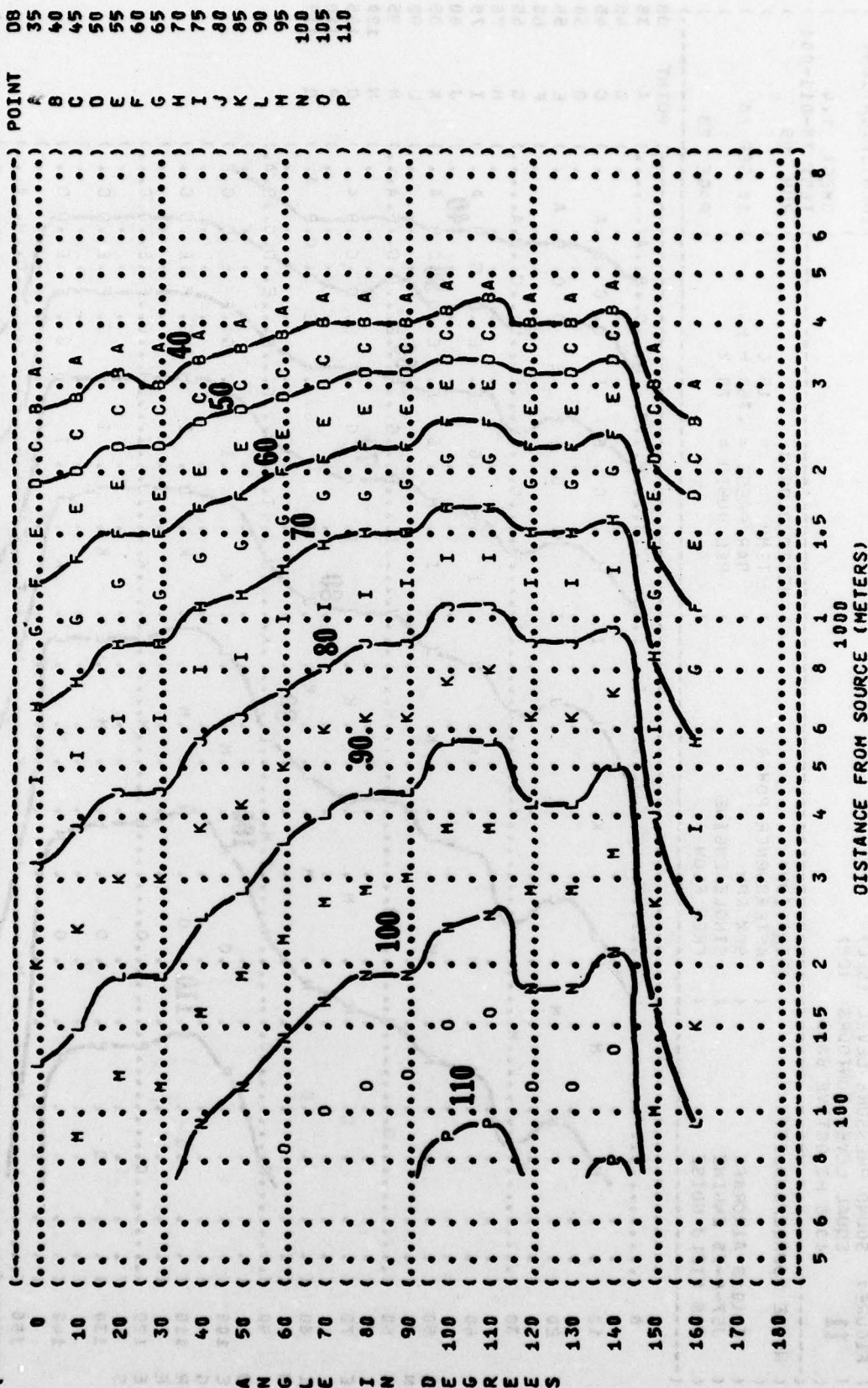
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 () TEST 78-011-001
 () RUN 05

OPERATION: () METEOROLOGY:
 () AFTERBURNER POWER
 () 96% RPM
 () SINGLE ENGINE
 () FREE FLOW

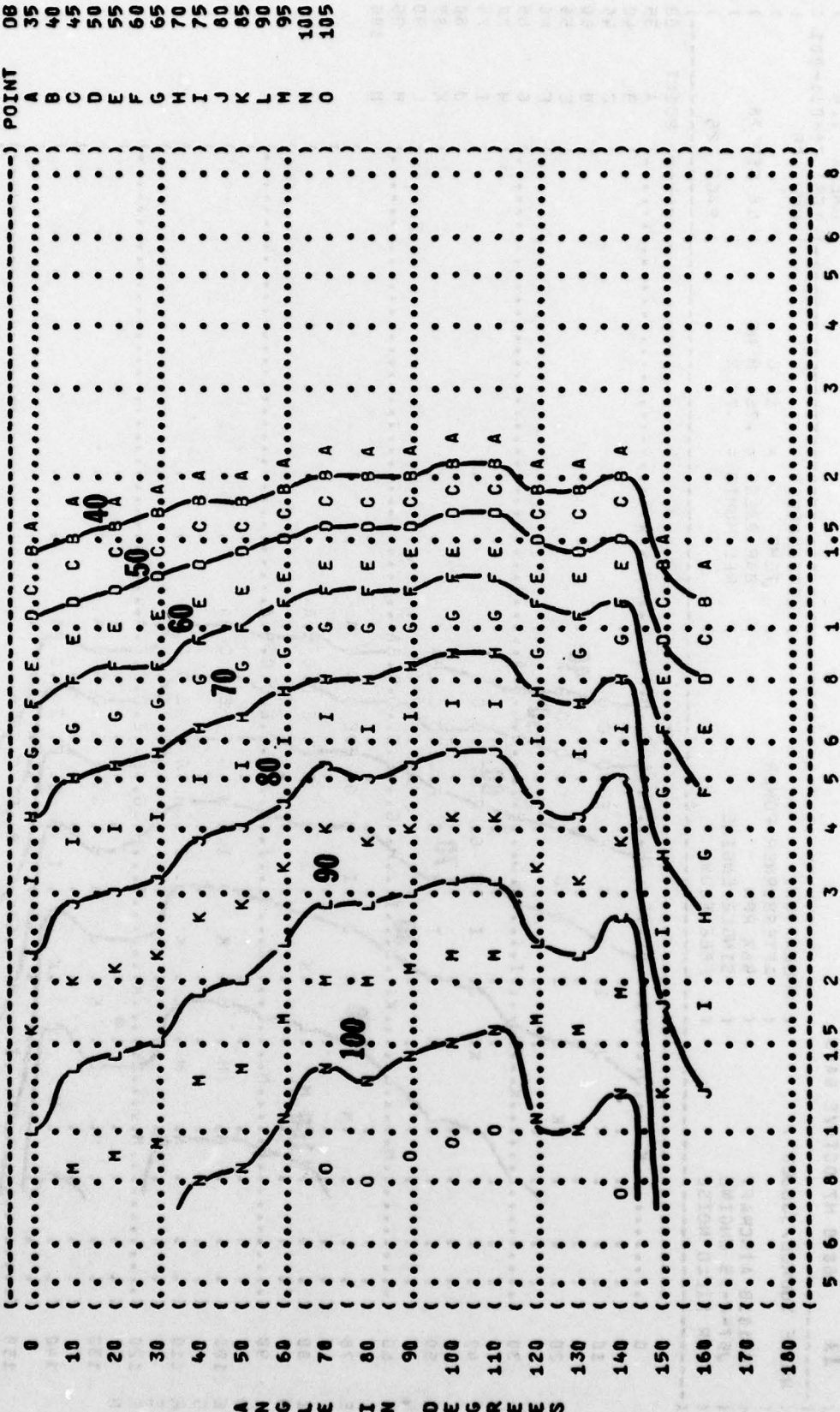
F-101B AIRCRAFT
 J57-P-55 ENGINE
 FAR FIELD NOISE

TEMP = 15 C
 BAR PRESS = .760 M HG
 REL HUMID = 70 %

18 SEP 78
 PAGE 24



((FIGURE: SOUND PRESSURE LEVEL (SPL)
 ((11 EQUAL LEVEL CONTOURS (DB)
 ((4000 HZ OCTAVE BAND
 ((NOISE SOURCE/SUBJECT: (OPERATION:
 ((F-1019 AIRCRAFT (AFTERBURNER POWER
 ((J57-P-55 ENGINE (96% RPM
 ((FAR FIELD NOISE (SINGLE ENGINE
 (((FREE FLOW
 ((METEOROLOGY:
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 ((BAR PRESS = .760 M HG
 ((REL HUMID = 70 %
 ((IDENTIFICATION:
 ((OMEGA 1.4
 ((TEST 78-011-001
 ((RUN 05
 ((18 SEP 78
 ((PAGE 25



DISTANCE FROM SOURCE (METERS)

A N G L E I N D E G R E E S

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 8000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 ((OPERATION:
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 ((96% RPM
 ((SINGLE ENGINE
 ((FREE FLOW
 (F-101B AIRCRAFT
 (J57-P-55 ENGINE
 (FAR FIELD NOISE
 (IDENTIFICATIONS:
 (OMEGA 1.4
 (TEST 78-011-001
 (RUN 05
 (18 SEP 78
 (REL HUMID = 70 %
 (PAGE 26

